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# Health Club

A THESIS

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**DAD**

Supervisor:

PROF.CARLO VANNICOLA

PROF.REZA SALARIAN

PROF.FARSHID ADHAMI

BY:

HOSSEIN TAVAKOLITARGHI

**Abstract**

Wellbeing or health includes providing complete physical, mental and social welfare for human beings.

According to WHO's definition, wellbeing is not only lack of disease or other problems in the body, but is lack of any mental, social, and economical problems, and physical health for everyone in society.

The most important health's indications consist of:

1) Lack of disease and organ defects, which doesn't keep people from doing daily activities and earning money
2) To have enough strength do daily activities.
3) Maintain body weight, apart from growth period ( a healthy person's weight is always changeless)
4) Balanced appetite, not too much and not too. Individual should have appetite to receive the least necessary food items.
5) Enough sleep and rest. A healthy individual must get enough and scheduled sleep hours. Many people need 8 hours of sleep. But it is not the same for everyone
6) Harmony in vital processes; human body is like a systematic and automatic that has do its function in time and well.
7) Non prominent body organs. A healthy individual never notices his body organs, unless there is a physical or mental impairment.
8) Feeling light. In normal situation, a healthy individual doesn't feel any weight for himself.
9) Intention to do daily activities. Healthy individual mustn't feel uncomfortable when doing these activities.
10) Retrieve comfort. Anyone who does a chore gets tired after a while; but a healthy individual retrieves his comfort after a short rest.

Aging or aging as the last period of human life has always been the focus of humanities and biology thinkers. This period of life, which is usually raised as people get older, has in many cases issues such as physical weakness, loneliness, disability, disability, illness, and possibly helplessness and poverty. These issues for seniors vary greatly depending on what society and culture they live in, and how well they respond to these issues and the type of solutions offered. Opportunities in the community depend, as in the industrialized countries of the West, we usually see the elderly in the homes of the elderly and apart from the family, and in the east and especially in the rural areas of our society, the elderly are often associated with family members and with them. Until the last moments of life can be observed. Obviously, with changes in social change and social institutions such as the family institution, from the traditional to the new form that has lost much of its traditional function, in societies like ours, we should expect to see specific problems in

the future. One of the problems with the elderly. For this reason, humanities and social science thinkers and social welfare practitioners need to devote part of their studies to the problem of the elderly. The present article is an author's study of Iranian elderly issues, with an emphasis on demographic aspects, which is hoped to be used by the elderly in Iran. Elderly in the World: The United Nations at the World Summit in Austria, Austria, dedicated to the elderly, presented facts about the rapid increase in the number and proportion of the elderly in the world population. "In the next few decades, the world will face a rapid increase in the number and proportion of the elderly population," said the conference. While the world's population has 5 million elderly over 5 years, the number of elderly will reach 1 billion one hundred and twenty million in year 2025, which will make up about 1.5 percent of the world's population at that time. The reasons for this growth can be attributed to the lower mortality rates that lead to more people living, and the increase in the proportion of the elderly in the world population as a whole should also be accounted for by the decline in birth rates.

**Key words**

Mental health, physical health, social health, peace, Elderly, Iran, Tehran

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# Chapter1: Research and Design sketch

## 1-1 Preface

### Urban Health Center

A new thought toward people's complete welfare and closure in international level.

Is a new concept in medical service.

A combination of the two spaces: Health villages and Health centers.

Provides professional medical services.

Also includes combinational medical services and provides general services as well.

## 1.2. Matter of design's expression

In this project there are also spaces like: body building, pool, physiotherapy, massage therapy, restaurant and markets which have healthy and organic foods, each of them in a way that is the presenter of health.

**Body building**

work out must be principled and influential. Regular body movements, in addition to have positive physical effects, are also beneficial for mental and social health. Sport is considered as a safe supporter for the young, which with its help, they can reach to the ultimate growth and human dignity.

**Massage therapy**

It is perfectly effective for body relaxation and reduces stress levels. A principled massage is also better for prevention and treatment of disease.

In vital organs, neural system forms some nodules through which electricity passes. In traditional medicine, these nerves are called "soul and strength".

Message is a method for fastening and regulation of blood circulation and pain relief. Especially in older ages, rubbing body parts is incredibly beneficial for longevity, until it is done on a regular basis.

Generally, massage therapy and rubbing herbal oils lead to proper circulation, regulates and invigorates the blood circulation, nourishment through skin, hematopoiesis, heating body tissues, excretion of toxins, fatigue, and entertains different body parts and it can boost up patient's mood. Additionally, in cancerous patients who are usually anemic, as hematopoiesis has a significant role in eradication of the cancerous cells, a massage with some herbal oils and ointments is applied for the patient.

**Water Therapy**

Benefits of water therapy in pools, therapeutic features of sea water, and also its pros and cons, 'hydrotherapy' as water therapy in the past has been noticeable by Iranians, the Japanese, the Greeks, and considering the numerous therapeutic features of water.

**Physiotherapy**

Physical and rehabilitation medicine which its aim is promotion and regain of performance ability and quality of life for people that have had physical injuries (like burn) or disabilities caused by a disease (cardiovascular, pediatric, and senility), injuries ( muscular, skeletal, tissues and neural system) or because of surgical methods. Its procedure is through combinational use of medications, therapeutic methods, physical therapy trainings, movement changes, orthopedic equipment (splints) prostheses, and new methods of training in addition to motor injured patients, physical rehab also includes patients that have had minimal physical challenges, but also an influential incident like chemotherapy, for several types of cancer, or surgery.

For gathering useful information from neural system for diagnosis, several rehab physicians, might use electrical diagnostic methods which include: electrical central neural system stimulation, neurons' response evaluation and also recognition of electric potential created in muscle fibers (through entering electrode needles into the muscles). Common disease cured by these physicians include: amputation, neural tube defects, sport injuries, stroke, and muscle pain syndromes like backache, fibromyalgia, and traumatic brain injury.

## 1.3. Aging in the country and need for health

In modern communities, presence of a place to maintain peoples' health, and increase their knowledge about healthy lifestyle, is a sign of development hygiene. So, presence of these kinds of services is necessary.

### 1.3.1. ELDERLY

According to Iran statistics report, the average age of people of the community is increasing and there must be places like this in the country in order to maintain health and motivate people and provide professional health services and reliable information for people.

### 1.3.2. Choosing unhealthy food

People's tendency toward semi-prepared food items has increased in the recent years. General temperament is moving toward these junk foods, although their adverse effects on health are obvious. These changes in eating habits causes a decline in health status which can be prevented through promotion of healthy and organic food item choices.

### 1.3.3. Promotion of healthy life style

### 1.3.4 Promotion of healthy eating habits and healthy life style with physical activity for teenagers and younger adults.

### 1.3.5. Lack of such a complex in Iran

Considering the importance of above mentioned items. In civil and mechanical lives of today, in our country in the recent year, also an increase in disease report, people's ignorance to their health status and an imbalanced mechanical life has caused: lack of physical activity, obesity, drug abuse, lack of enough and correct knowledge about healthy life style and .... . Accordingly, there must be such places in the society.

## 1.4. Design and Research, Aims

Building a complex which provides health and facilities that can be used to gain health and also eating organic food which is a presenter of organic food effects on health. This complex also tries to create a space for the disabled by making a healthy life style atmosphere.

## 1.5. Design and Research, Methods

**Scientific research based on the goal**

**Fundamental research:** Looks for truth discovery and recognition of phenomena and expands the borders of human knowledge.

It's divided in 2 groups:

a. **Fundamental Science research:** Primary data and information is gathered and observed through experience.
b. **Fundamental Theoretical research:** Primary data is gathered through library methods.

**Applicable Research:** It uses fundamental research to solve human needs and promote welfare.

Practical research: Problem solving research

e.g.: Chomsky's research about different languages through which he concluded that these languages have some general features in common, including organization and some other features, which resulted in his theory that says language is innate. Subjects like how to resolve university exam, unemployment and traffic problems in Tehran are examples of applicable research.

## 1.6. **Some features of fundamental research**

1. It's time consuming (for discovery of the unknown)
2. It is expensive and needs many financial resources
3. It is usually done by science and university centers, as their mission is to expand the human science.

**Some features of applicable research**

1. It is faster than fundamental research
2. It's profitable and because of this has many fans.
3. It's mostly done by state and private organization but sometimes by universities and science centers.

### 1.6.1 Practical research

This kind of research should be called "problem solving" and considered a kind of applicable research as its result is directly applied for solving problems. Practical research has a local effect and is not really universal. It is also based on fundamental research as it uses its rules and information. Since the aim of practical research is solving problems, anyone who faces a problem can do it.e.g.:

1. Research about car breakdown

2. Evaluation about disease diagnosis and treatment.

3. Finding methods for flood confrontation

### 1.6.2. Scientific research

Based on:

- Historical research
- Descriptive research

- Affinity
- Experimental and practical

We have used, books, web and field research for gathering in this project. The references are mentioned in the end.

### 1.6.3. Definition of the phrase "disability"

A lack of ability in the whole or a part of daily routines, or a defect in physical or mental strength. The above mentioned might be as a result of a chronic disease or a trauma caused by a car accident, disaster, war and etc.

Physical and motor disabled

In this paper, physical and motor disabled is defined as someone who is able to do limited activities. Theses complications can be prevented through some special services.

There are 2 features in this definition of disability:

- Impairment: Is a physiological or anatomical damage to the body which may be permanent or temporary.
- Limited strength and capability: Is a general or partial limitation in one's ability to do their daily routines which sounds normal.( dr. Ghazaei, Samad, 1989)

### 1.6.4. Creativity (creative thinking)

Is one of the basic human needs in every aspect of life and includes physical and extensive changes in human's thought. Creativity is also a potential ability at making new things.

According to Guilford theory creativity is solving a problem or a chain of problems, and based on Roger's theory, creativity means self-actualization, independency and being in a state of congruence with one self.

From psychology perspective, creativity is the combinational appearance of new thoughts through individualism from unknown resources (dr.Neishani, Teymour, 1998)

### 1.6.5. Self esteem

There are several definitions for self-esteem the simplest of which is being in a state of compromise with one self.

# Chapter 2: Getting to know the design's fact

## 2.1 -preface

### 2.1.1. Health Village history and definition

Health complex that provides its guests with relaxation health services. An ideal example of this is building a natural space away from pollution of cities and giving away traditional medicine services.

Health center is more of medical complex which offers medical service to treat rare disease. Long term stay is possible for patients in these centers. They are usually built in suburbs.

### 2.1.2. Urban health center

- Is a new concept in medical service concept in medical service section
- Is a combination of health village and health center
- Offers professional medical service
- Contains residential space of patients and their companions.
- It is easy to access for local and national transportation centers.

### 2.1.3. The importance of investment in health center projects.

- Several qualified faculties related to medicine.

- Iranian physicians' fame in the Middle East and among Northern neighbors.

- Increased rate of immigration among the physicians and medical staff during the recent years because of unemployment.

- Wealthy patient's reference to foreign hospitals.

- Shortage of governmental investments in this area.

- Commercial and functional success of the same samples available in national and foreign markets, like specialty hospitals established by private sections.

### 2.1.4. Functions

Tranquility o body and soul

The majority of Iranian people live in big cities. Crowded cities are becoming busier. Quiet and peaceful life has gone away for long, and there are lots of ill bodies and souls. Nevertheless, ill citizens are often hospitalized in crowded hospitals at high costs. If there was a clean and equipped place in the nature that patients could spend their recovery period in, they would definitely regain their health sooner.

### 2.1.5.Local and regional performance and gain people's participation

By expertly assessing the places that can be turned into health towns and choosing the suitable option, considering the socio-economic index of the region, we can help to economic growth and gaining people's participation. Considering the increasing rate of immigration to metropolis, and its adverse consequences, establishing such projects can stop the compulsory immigration to big cities because of employment. Furthermore, costs of maintaining such these complexes, due to the practically cheap rural and regional manpower, is significantly lower. In such these projects, understanding the social spirit and type of relationships in the region can provide the background for social cooperation.

### 2.1.6.Creation of Novel Public Place

The importance of natural life has been in the center of attention for decades. Naturalistic lifestyle has become so popular that in European and American countries for example, organic food in even more expensive than other types in the market. In Iran, the tendency is developing as well. Choosing lands in favorable climate zones as the backbone of health clubs and designing them in a way they emerge in the surrounding nature, can improve the relationship between the target group and nature. Being in natural spaces while being close to probable target market and regional access, makes this type of project an opportunity for experiencing organic life. Beyond the benefits of products made by natural methods, the relationship of big cities' habitants with the surrounding environment can be redefined. Rejection of artificial urban surfaces and getting back to where the city started from.

## 2.2.Sustainability

Is a broad topic which includes all aspects of life. A sustainable structure should be enough in all social, economic and biological dimensions. This type of architectural project when designed, performed, and used flawlessly and consistently with principles of sustainable architecture, can guarantee sustainability in all the three dimensions.

### 2.2.1Environmental Sustainability

Today, context-oriented architecture is known as a key element of environmental sustainability. This means creation of a space which has the least damage to the environment, by inspiring from the nature and using the environmental capacity. Many principles of creation of environmental sustainability like using materials available in the area and clean energy, shapes other dimensions of sustainability, especially economic one.

### 2.2.2 Economic Sustainability

Means optimal use of all available resources for long term income.


### 2.2.3.Social Sustainability

Happens when all social structures in community move together toward improving the quality of life. A sustainable provide its own growth opportunities without limiting the next generations' capital.

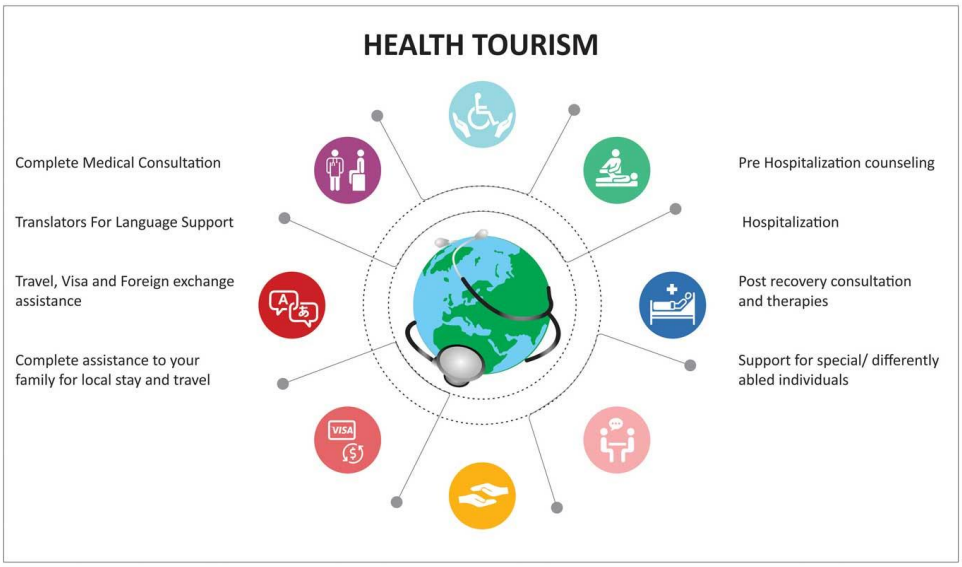
### 2.2.4.Habitual Activity

A high productivity plan requires the activities to be ongoing on the site all days of the year. Flexible placement of different activities in various forms, with a proper schedule, forms a dynamic, variable complex with the lowest density possible. As all hours of the day and all days of the year have their own beauties and attractions, the plan layout can be influential by this time trajectory and the different spaces of the complex can work optimally in accordance with different time conditions.

Medical tourism is a branch of health tourism in which one travels from a developed country to other parts of the world in order to get access to medical service of the destination country. In most cases, the goal is to benefit from cheap medical service or other services in other parts of the world. Medical tourism is different from regular medical trips. On the regular trips, one travels from an underdeveloped country to developed ones to benefit from medical service there,

and the reason is lack of the similar services in his own country; while about medical tourism, the same services are provided but the tourist prefers another country. Services offered in medical tourism are different and depend on the tourist's choice. There is no limitation, and services are different from basic dental services to professional surgeries, like knee replacement or cosmetic surgeries.

According to the aforementioned capacities, such as presence of specialists and experienced medical staff in our country, the expansion of medical tourism can be a profitable and economical project. Among the successful countries in the field of medical tourism: Brazil, Costa Rica, India, Mexico, Panama can be mentioned.



**2.3.The disabled**

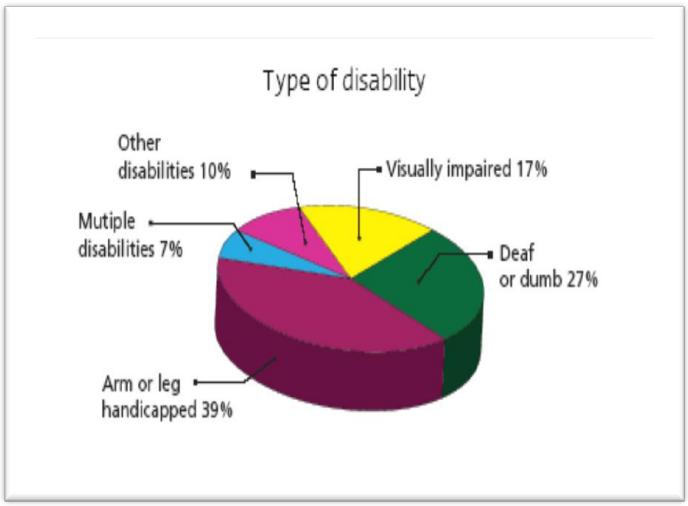
They exist in every society and are a part of that community. They are the children, brothers and sisters of the community that suffer from physical or mental defect. Taking care of people with disabilities is a duty of community but a very difficult one that is sometimes beyond what a normal person can do. Walking and living with a disability is also a problem for them and also the society, but in every country there are solutions for this problem. These solutions might be the result of individual thought and, sometimes experiment and sometimes a mixture of both. Some disabilities are physical and some metal; disabilities might also be congenital, caused by an illness, accident or war. Its extent and degree is different as well. Sometimes, although the diagnosis in not possible for people in community, it is easy to fix. Mild hearing problem which is light deafness or poor vision and defect in body parts can be fixed with devices such as hearing aids, glasses and etc. the condition is also different in variable jobs. In some carriers like driving, color recognition power is important; sewing also needs good visibility, but about teachers, power of speech and good subjectivity are the main requirements. Generally, it can be imagined that anyone can be involved somehow in the society. Some centers are needed to make the disabled useful in the community. Categorizing them, professional training and providing special services can help the disabled. There are few employment opportunities for people with disabilities. In most countries, there are laws enforced for hiring the disabled. A disabled person is a normal person with all the same needs and hopes and wants to work for a living; he craves independency and hates pity. Constitutional law that is actually a social contract between the government and Iranian citizens (a citizen is someone who benefits from facilities and also because of living in this place has some rights), emphasizes work and job. Job is a commitment

toward an institution for doing some long-term tasks. Every human being needs to have a job from both financial and spiritual perspectives. The importance of employment is from economic and social perspectives for the disabled is more significant than normal people; since it is proven that adverse effects of unemployment affect the disabled more. On the other hand, job limitations dye to their disabilities reduces the chances of choosing other jobs. Unemployment turns them to consumers. Jan Ellison, Swedish president of the United Nations General Assembly: "Remember the quality of society is measured by its behavior toward the most susceptible citizens" (1385). Ensuring human rights for people with disabilities is an important step toward UN millennium developmental goals to reduce poverty, gender equality, reduce children mortality, and providing public primary education by the year 2015. Based on UNESCO statistics, 1 in every 5 people in the world is disabled. In developing countries, 90% of disabled children don't go to school. Based on the approximate evaluation of the UN, there are 500 million disabled in the world and

this number is going up every year. Challenges due to war in different parts of the world, famine, disease, life difficulties in developing countries, work related accidents, pollution, traffic and drug abuse in industrial countries lead to disabilities every year. Therefore, there must be social backgrounds that enable the disabled to be independent from charitable organization and etc, through providing the same opportunities. Disability rehabilitation in order to live independently in a way that they would be responsible for their lives and join the community is considered a dignity. Based on the statistics, about 12% of the Iranian population is disabled, which about 2 million of them are severely disabled and 5.6 million suffer from weakness. WHO statistics are the largest minority in the world. According to WHO, more than 600 million people in the word are disabled due to several physical, mental and social causes; 80% of them live in the third world countries and one third of them are children. According to the statistics, 1 in every 10 newborns in the world, is congenitally disabled or disables later in life. Disability is more of a social, than medical phenomenon. On average, 10% of every community consists of the disabled. In the simplest definition, it is called "disturbance in the relationship between the individual and the environment". That is why the disabled face the cultural, social, and physical obstacles. Perhaps the most challenging obstacle is the limitation in living like normal people. According to

who, about 10% of the young population (200 million people) suffer from disabilities in 6 groups: physical, mobile, mental, visual, speech and hearing; these disabilities are caused by several factors like: work related accidents, car accidents, violence, war, poverty or congenital causes. Most of the disabilities affect villager girls. Furthermore; Iran's demographic puzzle which is the youngest country in the world, can be a gull resource of energy and several kinds of susceptibilities.

History of disability is as old as the human life on the planet. Archeological research suggests that skeletal abnormalities have existed since ancient times. Mummies found from 5000 BC, are the evidence of spinal tuberculosis and arthritis. Since humanity began, the problem of people who couldn't socialize for some reasons, has been an issue, and the community has endured some of them because of convenience or health, some would be imprisoned or sentenced to death. The word "Alien"( "Aliene in French) used for a haunted person, has derived from the




Greek word "Alieniste". The reason is that they treated the mentally retarded as the haunted, strange in the society. It was later found that these patients aren't aliens, but because of some brain lesions, their contact which the outside world has changed. As the Greek philosopher Hippocrates also mentioned these lesions in humans. The ancient Egyptians were the first group to show interest in the disabled and their lives. They weren't only interested in discovering causes of disabilities, but also personal and social well-being of the disabled. For the Greeks and romans, children were considered as the property of the country, and they believed dynamic and live society originates from its people's potentials. Regarding the child upbringing, Aristotle in the book "policy", suggests: There must be a law that no disabled person has the right to live. Hippocrates also, says in this regard: "a newborn that is worth raising". In ancient Rome the "Sparta", in a city in ancient Greece, took the newborn to the elderly in order to know if he

would be a good citizen or no. children who were physically able to grow and had the potential to be warriors, were officially accepted by the government but stayed by their mothers' side till the age of 7. But those with visual impairment, or other disabilities and defects, were abandoned in the mountains or thrown into the water. Even Nazi regime, allowed killing mentally retarded people. Romans had the same beliefs toward the disabled as the Greeks, with this difference that the father as the head of the family, has the power of deciding about death of life of other members, he can abandon the child, kill of sell him or even abandon him in the river. Unlike some Asian religions such as Confucius in China (the Latin name of a great Chinese philosopher) and Zoroaster in Iran, encouraged people to have an ethical treatment toward psychopaths, and the mentally retarded individuals, and help them as possible.

Hippocrates as the founder of a great medical school (460 BC) suggested a method that physicians followed later. He adopted the medical techniques of ancient Egypt in the treatment

of handicapped and attempted to cure several types of disabilities (such as deafness, epilepsy, and mental retardation). He also separated superstition from medicine and took the first steps toward diagnosis and treatment of patients.

With the advent of Christianity, the notion that Satan was the cause of disability became popular. During middle ages, church legislated some discriminations against the disabled, including abdication from the right to use inheritance, obtaining certificates, testimony in the courts, and making contrasts. In Germany, in the 16$^{th}$ century, mentally retarded individuals were imprisoned in cages. Most of the handicapped experienced a life with lack of security. There were several notions regarding to the mentally retarded; some considered their movements and conversations as talking to the devil and some a mysterious relationship with the God. As mentioned above, these diseases were called madness, therefore, there weren't any book and reference pertaining to the retarded and behavioral disorders, until the late 19$^{th}$. In the late 18$^{th}$ century, the famous French psychologist named Philippe Pinel, was the head of Bicetre hospital in Paris, which was particular for mental disorders in men. For the first time, he opened the chains from patients' necks and feet. Instead of torture them, he sympathized with them and considered recreational programs for them. These methods were later called: moral treatment.

Later, Esquirol, applied Philippe Pinel's method in women's mental hospital in Paris.

In 1801, Philippe Pinel in a book titled “philosophical reference about maniac”, for the first time divided mental patients in 4 groups and considered mental retardation in mental disorders group. This category is as the following:

1. Melancholia
2. Maniac
3. Insanity
4. Mental retardation

French revolution and human rights equality were the first period of attention to the problems of mentally ill patients; and it was among this revolutionary programs that care, treatment and training of all individuals who have reached the education age was considered and exceptional children became popular.

The historical roots of education dates back to the 18th century. We can count the contemporary educational methods for exceptional children as the pioneer of that era; and lots of controversial issues about special education have been considered ever since (more information at Ball, 1971, Goffman 1976, 1981, 1985)

In the early 19th, first attempts to educate insane children and individuals who are today called, retarded, was made. Pinel's method gradually became popular in other countries as well, like William Tuke in England who applied Pinel's method. His sons and grandsons continued this way after him.

Gaspard Itard, a French physician, started treating a wild child who had been found by two haunters in Aveyron woods in France, in the deaf and mutes institute of Paris, which he was the head of. Although his treatment was not a success, it caused an improvement in the education of normal, retarded and even disabled individuals, which is today called, "the audiovisual teaching methods". Dr. Itard's coworker and student, Eduard Seguin established an institute for the retarded in Paris in 1837, and ten years later (1846) he wrote a book titled "ethical treatments, hygiene and education of the retarded children" and applied "sensorimotor" method in teaching the deaf and mute.

One of the important steps was to develop a simple machine called "vertebral test" that tests children's aptitude and sensory perceptions such as vision and hearing. It is called the wooden board test by some people.

Another scientist who had an important role in providing services for the retarded, particularly provision of shelter for their expansive treatment is "Guaggenbull". J.Galton (1869) by expanding the evolution theory of Darwin, concluded that human features are inherited through genes. Binet.A (1905) also, by designing intelligence tests, made it possible to identify milder forms of mental retardation.

Folling, a Norwegian physicist, described the biochemical function of metabolic disorders, like Phenylketonuria.

Doll.E made the "Vineland social maturity scale" for researchers in 1935. Eduard Seguin's work was the reason that Maria Montessori, the first Indian woman who obtained PHD of medicine, practiced educating mentally retarded preschool children.

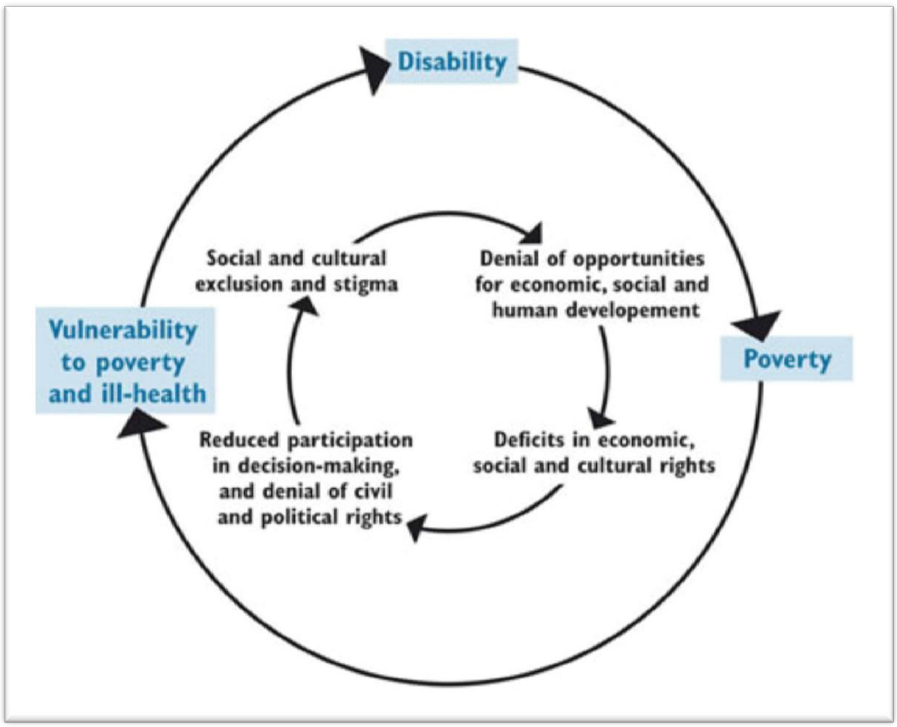
In the early 20th, the humans genetic variation was put on the agenda, and it was emphasized that 90% of disabilities are hereditary, therefore, the disabled sterility became common and by the end of 1955 in 28 US states, on the recommendation of the Research Committee of the human genetic variation it was legislated and thousands of retarded individuals were sterilized.

In the 19th century, the beginning of the development of medical approach for the disabled, was the concept of rehabilitation's outset; as several centers for the paralyzed were established and services like, medical care, professional training toward rehabilitation were considered. In 1906, Dr.K.R, performed the first disability statistics in Berlin, and this caused establishment of the first rehabilitation center. In the 20th century, retardations caused as a result of disorders, congenital defect and maternal disease during pregnancy and…, were discovered and experiment about this subject started.

So far, just those European physicians who have had a dominant role in education of the disabled were mentioned. Americans who were completely aware of education development in Europe, traveled there to obtain the newest information in this field. Samuel Howe (1801-1876) who had

a passion for education of the disabled students, graduated from Harvard University of medicine in 1824. In addition to being a physician and education expert, he was a politician and a social peacemaker fighting for humanitarian goals and freedom.

Thomas Hopkins Gallaudet (1851-1874) travelled to Europe to learn about education of the deaf students and when returned to US, he established the first US boarding school for deaf students in Connecticut, Hartford. Gallaudet University in Washington D.C, the only university in, the only college for the deaf in the world, was named after him. It was after the second world that special education could overcome the stagnation caused by a century of ignorance. After election of John F Kennedy as the president of the US in 1961, great steps were taken and new plans were designed in many areas; but the significant improvements occurred during Johnson's administration. Another person who has done a lot of rehab word for the disabled is Dr.Rask who suggested accelerating the recovery and reintegration which was late applied for all the was




injured and civilians. Another example is Dr.Kessler who was the head of international rehabilitation center. He spread rehabilitation message worldwide. Briefly, specific education didn't appear as a new scientific major and didn't develop. The physicians were the first group that strived for the well-being and education of exceptional children, today it is a professional

field which roots in several academic careers. Particularly, medicine, psychology, social service, and sociology.

### 2.3.1.The history of disability so far

Disability dates back to the emergence of human beings. A review of disability history shows that in every period of the history, in every culture and civilization and different society classes, there have been people who acted lower than normal in terms of social and mental activities and although they needed specific attention and care, not only their needs and welfare has been has been ignored before 19th century, but a study of the disabled lives shows that the common behavior of societies with this group of people specially the mentally retarded has been cruel and unfair. Early societies and early tribes of human being who worked hard to survive, rejected the weak and handicapped individuals who didn't succeed in like challenges. The Sparta baited abnormal children to the wolves and threw the paralyzed into the river.In many ancient example, it has been custom that some people with disabilities were victimized or stoned during the famine. Belief in evil spirits and their incarnation in disabled individuals have been common in many societies, including Europe, up to the last century. In all religions, including Islam, the concept of helping the weak is interpreted as a supportive deed. In Islam helping such people is a duty for Moslems. Like the holy prophet said: "If one saved another person, has saved all the human beings." (Maedeh, 32) Generally in history, people's beliefs toward the disabled especially mental disorders, reflexes social beliefs of that time and the cultures of nations have always had an impact on their beliefs. Fortunately, in the present societies, beliefs about this group have evolved over time and significant developments in science and technology and continuous efforts of scientists like Seguin, Montessori, Benet,… who have done valuable work in terms of education of the disabled and their work has been followed by the next scientists, which eventually lead to acceptance of the disabled in the society beside others. This proves a significant change compared to the past. In most societies the handicapped have had the social attention, which helps provision a better service to them in order to gain total independence.

There is no specific date related to disability appearance in societies as it seems they have always existed through the history; but what is obvious is, whenever they were mentioned, it was with a sense of pity animosity, like the society doesn't need them at all.

Dealing with the disabled has a long history, but the most important part of that should be searched in 1980 and afterward; when human rights were manifested about them, this attitude even affected their classification and made big changes. In 1980, WHO suggested a new classification named "ICIDH" which included new concepts about disabilities.

### 2.3.2.The era of dealing with the disabled

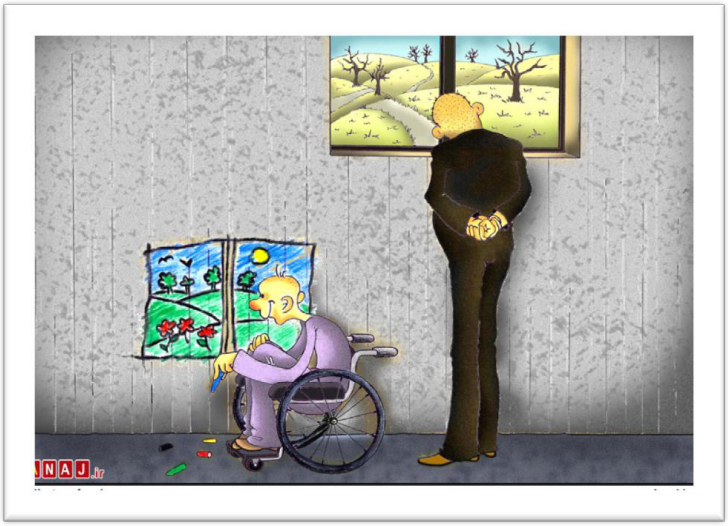
The disabled are a part of every society, caring of them is the society's duty but it is a difficult task that sometimes can't be well handled. The disabled working and living is also a problem for them and for the society but there are some solutions about this issue; these results are sometimes

the result of an individual's thought and sometimes thought and experience along with scientific methods.

Generally, we can imagine that everyone is used somewhere, somehow. To involve the disabled in the society, we need to some centers and training stations. Classifying them and professional guides are other things that can be done for them.

There are few employment opportunities for them and in most countries, like Iran, some laws have been legislated for employers to hire the disabled. But sometimes, these laws are ignored and involvement of these individuals in doing something in their ability, is rejected.

A disabled person is a normal human being with all needs and hopes as a normal person and wants to work for a living. He craves independence and hates pity. The importance of employment is more significant about the disabled; as it is proven the adverse effects of unemployment affects them more. . On the other hand, job limitations dye to their disabilities reduces the chances of choosing other jobs. Unemployment turns them to consumers. Jan Ellison, Swedish president of the United Nations General Assembly: "Remember the quality of society is measured by its behavior toward the most susceptible citizens" (1385). Ensuring human rights for people with disabilities is an important step toward UN millennium developmental goals to reduce poverty, gender equality, reduce children mortality, and providing public primary education by the year 2015. Based on UNESCO statistics, 1 in every 5 people in the world is disabled. In developing countries, 90% of disabled children don't go to school. Based on the approximate evaluation of the UN, there are 500 million disabled in the world and this number is going up every year. Challenges due to war in different parts of the world, famine, disease, life difficulties in developing countries, work related accidents, pollution, traffic and drug abuse in industrial countries lead to disabilities every year. Therefore, there must be social backgrounds that enable the disabled to be independent from charitable organization and etc, through providing the same opportunities. Disability rehabilitation in order to live independently in a way that they would be responsible for their lives and join the community is considered a dignity. In this paper we have tried to mention the disabled difficulties and implement employment problems as much as possible; we hope this can help solving them. However it demands cultivation in great levels.



### 2.3.3.Disability definition

Disability is one of the most serious problems we face. “Do we need this definition?” has been discussed for years. At the present, there is no clear and short definition. Handicap means to lose or to have limited opportunities to get involved in social life equal to others. Disability means a group of functional limitations which takes place in every society and country. People can get disabled as a result of physical, mental or sensational abnormalities or medical conditions or mental disease. These impairments might be permanent or temporary. The disabled are a group of people with long term physical, mental or sensational impairments and they may delay in fully dealing with different obstacles. In the simplest definition, disability means an impairment in the relationship between the individual and environment. It means when a handicapped faces cultural, social or physical obstacles, the most important thing that comes up is lack or limitation of opportunities for living life like others. These disabilities are from different origins like: during work, driving or cycling, violence, war, poverty or congenital impairments. People with disabilities may suffer from physical, mental, sensory, or medical conditions or mental illnesses. These conditions might be temporary or permanent. People with disabilities are a group that suffer from long term physical, sensory or mental problems, and face a bias in dealing with different problems. As the largest minority in all societies, they need special services provided by the government as a facilitator and from social organizations, as the critic, moderator and sometimes a supporter.

Now we will mention some definitions suggested by international organizations.

WHO: Handicap is a defect and is caused by an impairment or a disability to perform a normal social role (related to age, sex, social and cultural factors.)

UN: Handicap is the lack or reduction of opportunities to participate in social life like normal people.Recommendation no 99 of the international work conference: In this reference, which was legislated on June 22th 1955, about professional rehab, "handicap" is defined as a person who has lost hope to find a proper job, as a result of physical or mental injury.

### 2.3.4.Types of disabilities

1. Physical or motor handicapped
2. Mentally retarded: Cerebral impairment has caused disability at performing chores that normal people or able to.
3. Sensory handicapped: It includes: the blind and deaf who have visual or hearing problems and can't communicate properly.
4. Chronic mental disease: Impaired cerebral function results in impaired judging power, in a way that the character and temperament of individual is out of control.

### 2.3.5.Causes of handicap

The UN divides all causes of disability into 4 categories.

1. Genetic factors: e.g. the congenital mentally retarded
2. Biological factors: Including infectious disease like: Poliomyelitis, leprosy, tuberculosis, ear and eye infections. Developing countries that have limited medical prevention programs, have reported disease like measles, rubella, tetanus, cerebral edema, small pox and malaria as the causes of many disabilities. In industrial countries, disease like diabetes, cancer, nervous system impairments and sensory organs, GI and urinary system, cardiovascular and respiratory disease as the main causes.
3. Accidents: Car accident is one of the most important causes of disability. Industrial countries may maintain the numbers of victims at a steady level by taking preventive steps. However, the numbers of these victims is going up in developing countries. Also the rate of workplace accidents in developing countries is rapidly going up because of an increase in the mechanization of tasks and poor staff training in using the machines. Of other accidents, domestic fights and riots can be mentioned. In Japan, about 5% of disabilities of people over 18, has happened in wars, caused about 300,000 increase in the number of the disabled population over 8 years, and the social focus was on the war disabled rather than normal disabled, more service was provided for them.
4. Social, cultural and environmental conditions: These factors are merely discussed in developing countries based on their relevance to poverty. Factors like poverty, stupidity, superstition, urbanization, and drug and alcohol abuse can be mentioned. The most important problem of the disabled citizens in Tehran, is the bad condition of urban roads, a problem that has been mentioned in public organizations several times and Tehran's municipality has recently established "headquarter of promoting the city" to meet some of the needs in this area.

According to Shapour Divansalar, the technical deputy of urban plans, Valiasr St, Enghelab St, Shahrivar 17th St, Jomhouri St, Ferdosi St, Molavi St, are all examples that their pavement areas have been improved for all groups, specially the disabled.

To assess this, we also interviewed some other districts' mayors; for instance, Mr. Fazel, the mayor of 2nd district talked to online Hamshahri: for the district's accommodation for the disabled, with a group of 26 volunteers from the handicapped and other citizens of 2nd district, we have attempted to recognize and take photographs. The accommodation is in progress and we hope that it will finish to the end of the year.

Also Mr.Iraj Valinejad, the transportation system assistant of 20th district said that 55 places from the 20th district's roads had been accommodated for the disabled, paralyzed and handicapped. He also facilitated their transportation by making some changes in the roads.

This is only a part of creating space for the disabled and is still ongoing.


### 2.3.6.The disabled and bus

Of course the disabled problems is not just accommodation on the roads; they also have difficulty in public transportation, as in recent years, the welfare organization has eliminated the disabled transportation costs, and many of them need to use public transportation. This problem is for the students and staff whose service has canceled. But to solve this problem, urban management has put buying 700 new buses specific for the disabled on agenda.

Mr.Sanandaji, the CEO of bus transportation system: "All the hard line stations now are equipped with disabled special ramps"; he further noted that the arrival of 10 specific buses for people with disabilities to the Tehran bus organization, which are designed based on the world's newest standards." We hope to teach to that point where there are specific to the disabled in each line. There are some other equipment like: oxygen capsules, and mask, special seat and ramps in the bus stations.

Taxi and specific taxi for the disabled is one of the transportations ways that is rarely used by the disabled. The chief executive of the taxi organization in Tehran about the condition of the capital's taxis for the disabled said: "Our taxis are not even suitable for normal people! Car companies don't meet the required safety standards". However, Mr.Ahamadi Bafandeh said: "Despite all these deficits we are planning to have a specific taxi organization for the disabled that provides some facilities for them"

### 2.3.7.Subway and the disabled

Subway us another way of transportation that is often used by the disabled because of its elevators and open space. Mr.Ali Mohammad Gholiha, considering the problems said: "12 subway stations were specified to the blind navigation system so far." He further noted: "All the new stations are suitable for the disabled. We have tried to facilitate their transportation by elevators and escalators. But we don't have the facilities needed for their accommodation.


### 2.3.8.Public sport and the disabled

Apart from transportation they also have cultural and social needs, which should be fulfilled by the government. Tehran mayor has had several programs about this so far. Establishment of "Ghamar Bani Hashem "sports center in 1390 was one of them that provided free services for them on religious feasts and …. This center is located in 20$^{th}$ district. The mayor of Tehran prioritized service receive as: devotees, disabled, women, the young and downtown.

### 2.3.9.Social activities and the disabled

Apart from sports complex, Tehran's municipality is planning to establish a professional center for the disabled citizens and according to Mr.Amiri, it is going to be established soon in district 4. However they have had their special headquarters (n: 374) with 7700 members for more than a year and the deputies have all been chosen of the disabled population. "They have taken many steps" Amiri said.

### 2.3.10.Parks and the disabled

The mayor of Tehran also demanded accommodation of these spaces for the disabled. Apart from making 2 gardens for the disabled the chief executive of parks and gardens of Tehran on Mordad 29, 1389 said: "We are planning to make all the gardens of the city safe for them and we will provide new facilities, adapted with the world's newest standards." Mr.Mokhtari further noted: "New ramps will be contrived to facilitate their transportation". He mentioned that in "Goftogu" park for example, nice plans had been administered and the disabled can easily have access to different parts of the park.

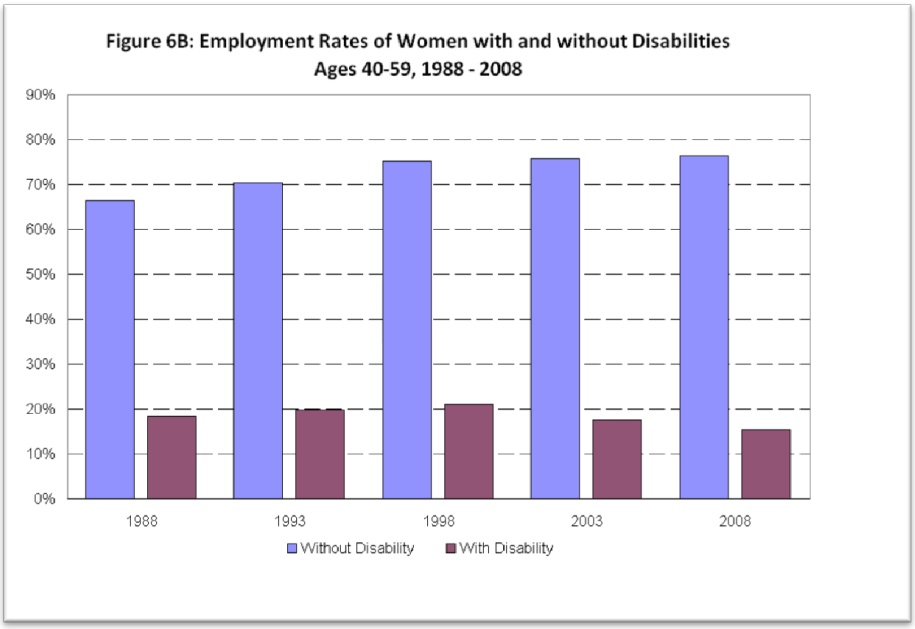
However, according to experts in this field, we are far away from the ideal; and the cooperation of many organs is necessary.

### Conclusion

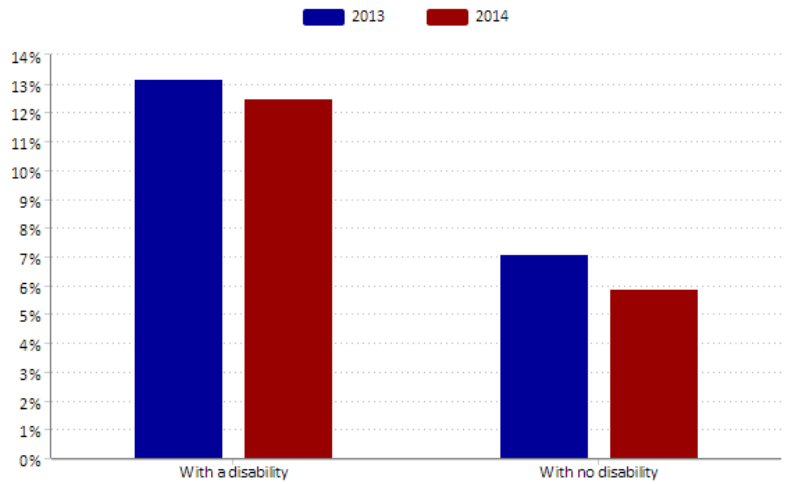
People's attitude toward the disabled is important in their behaviors toward them. A wrong attitude about this phenomenon and abilities of the disabled and rejecting them will have negative consequences. A right attitude about this phenomenon in the other hand, will be an important step toward development of the country.

Most people with disability suffer from lack of suitable education, housing, transportation, employment and access to proper information and life. Most of them were even held from their social rights and this injustice has become inclusive and common because of several stereotypes, wring attitudes and biases that consider them as dependent individuals who need constant care. Whereas, they have the right to have normal lives as others. If we look at them or label them with a wrong attitude, it causes a discrimination against them. Despite all the social changes so

far, the disabled are still facing attitudinal barriers. Culture and Social factors fuel these negative attitude. The complexity of attitude structures implies that social factors can be used to change attitudes. Attitude is among the factors that determines the human behavior and can have a strong impact on other behavioral factors. The attitudes and behavior of health care providers and non-specialists are totally related. When the social condition and structure are normal, anyone who is different in appearance, function or belief is labeled as abnormal and is deprived from many facilities available for normal people. This deprivation is considered normal as well. Accordingly, normal people think that the disabled, as a result of the negative differences with others, always wish to have a normal condition. The contact based on this bias against the disabled is according to assumption about them. It seems that most of the messages we receive from normal people shows a part of thought toward the disabled that society rejects the disabled of put them in a lower level than normal people. Despite the common beliefs of most people and governments, the major problem of the disabled is not physical of financial weakness, but is the people and government beliefs toward them that consider them as weak individuals and that they have no role in major decisions of the country. In other words, as a result of lack of proper cultivation, they have experienced various problems like employment, housing, road accommodation problems and etc.



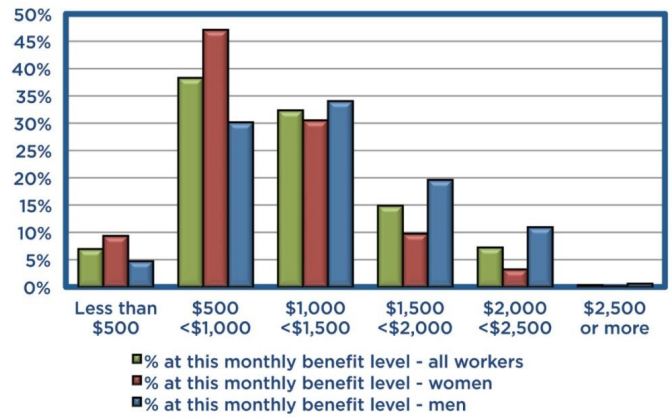
**Unemployment rates of people with and without disabilities in 2013 and 2014**




Source: U.S. Bureau of Labor Statistics.

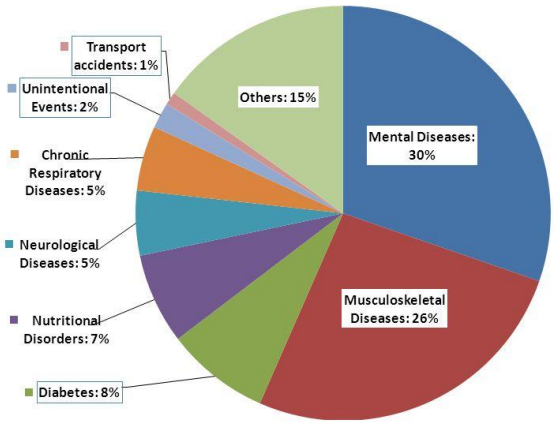
**Disabled Workers' Average Monthly SSDI Benefit In 2013**

More than three-quarters of disabled workers receive monthly SSDI benefits of less than $1,500.




Source: US Social Security Administration

Main causes of disability in women in Iran, 2010




GBD 2010

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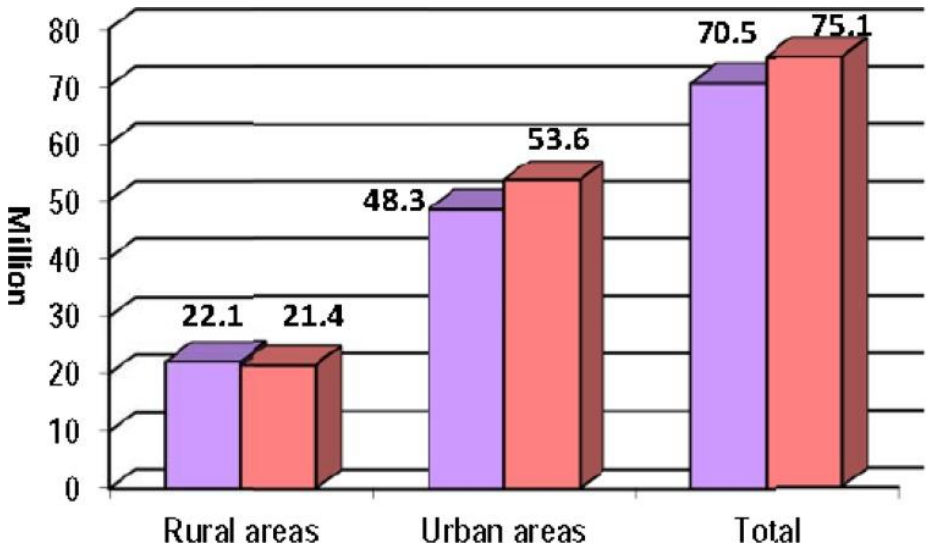
## 2.4 ELDERLY PEOPLS IN IRAN

The Islamic Republic of Iran which is located in WHO Eastern Mediterranean regionis the 18th largest country in the world in terms of area at 1,648,195 km and the 4th largest country in Asia.According to the report of 2011 census which was the seventh national population and housing census of the country, the total population of Iran has been 75,149,669 (comprising 50.4 % male and 49.6% female) whom 71.4% were settled in urban areas.

In addition average household size has been decreased from 4.03 in 2006 to 3.55 in 2011. Even though this change will definitely have positive impacts on family health and economy, the negative consequence of such a change will be reflected in the caregivers' numbers for the old parents in the future.

The comparison between population age pyramids shows the trend of ever increasing old population in Iran during recent five years




In order to achieve a better life for the old population and their family we should set our goals in different levels including governmental supports, health system policy making, medical education and public sector with a harmonic interaction.

### 2.4.1 Policy Making

- Costs for care for older people are manageable if governments are activein developing appropriate policies and programs that share responsibility and focus on prevention, and that support and regulate a market for care, especially caregiving, and treatments and

products. In this direction developing and supporting cost effective home and community-based models of care is needed.

- Available evidence suggests that governments should 'spend to save' – in other words, invest now to save in the future. Economic models suggest that the costs associated with an earlier dementia diagnosis are more than offset by the cost savings from the benefits of medications for AD and caregiver interventions. These benefits include delayed institutionalization and enhanced quality of life of people with dementia and their caregivers (4).
- Enhancing the financial and insurance systems is a crucial part of patients support.
- Improving the quantity and quality of social services including day care centers and institutional homes compatible with medical standards, the needs and culture of our elderly.

### 2.4.2 Health System and Early Diagnosis:

- Earlier diagnosis allows people with dementia to plan ahead while they still have the capacity to make important decisions about their future care. In addition, they and their families can receive timely practical information, advice and support. Only through receiving a diagnosis can they get access to available medication and non-pharmacological treatments that improve their cognitive deficits, behavioral symptoms and their quality of life.
- Improving the likelihood of earlier diagnosis can be enhanced through:

a) medical practice based educational programs in primary care, b) the introduction of accessible diagnostic and early stage dementia care services (for example, memory clinics), and c) promoting effective interaction between different components of the health system.

- Developing screening centers for early diagnosis of age-related disorder withhigh mortality and morbidity.

### 2.4.3. Medical Education

- Improving geriatric training in medical education by: offering a residency in

geriatrics; considering this specialty in continuous medical education (CME) for all specialties that are eligible for visiting old patients; and a short term of training for the general physicians.

### 2.4.4. Social Awareness

- Raising awareness of our community about aging, age related disorders andsuccessful aging to consider their physical and mental health since youth.
- Creating new roles for the old people in society to keep their independence, to lead productive and purposeful lives, and to encourage those who are still capable to remain in the work force.
- Supporting and enhancing the traditional systems of family care through the help of support groups and social workers.

- **Other important issues** which should be addressed in a national planning for elderly population are:
- Palliative care and pain management
- Engaging the private sector
- Intergenerational education
- Age-friendly environment
- Preventing and treating disabilities
- Addressing abuse and neglect

In Iran, we are just beginning to experience a big challenge related to population aging and its consequences, while we still face many problems in the other areas of our health system. Like other developing countries, this process is occurring more rapidly than in the western countries. As indicated in the Asia's aging.

Population report: "Aging is occurring more rapidly than economic growth."

After spending many years in the office of human life, old age with special features opens its arms to man. The 9th of October each year commemorates the elderly day and requires more attention to this part of society. Seniors carry with them a backpack of experience as they move through their youth and into middle age. On the other hand, as we move along the path of aging, our physical abilities decline and retirement comes. During adulthood most of the needs and services of welfare, health and community support for the elderly are created. As we approached Elderly Day, we talked to population researcher Saleh Qasemi about aging, the steep rise in the number of elderly, and the crisis of premature aging in the country.

In an interview with Mehr reporter on the characteristics of old age, Qassemi said: In terms of population research, old age is the time to accumulate experience and use the expertise of expert experts that should be used in society.

He continued: Elderly people are the capital of every country and increasing their number is a sign of increased life expectancy and increased health. But the increase in the number of elderly people is seen as a crisis for the country and sounds a danger to the country's young population.

Increasing the number of elderly people and the aging population of the country

Population developments since year 5 have put the country's structure in bad shape and are a serious population alert," the population researcher said, adding that the number of elderly people in the future will see a serious challenge in the future.

Qasemi said that unfortunately we are heading towards a crisis of declining population and aging population. He said that the population growth rate was 6.2 percent in the year and it has decreased to 6.2 percent in the year 2.

He noted that the decline in fertility rates is another concern for the country's population decline, which said that the crisis reflected a decline in population and fertility rates as the number of

children per year averaged 4 children, but this rate is currently The average number of children has dropped by 5.4.

Qasemi explained: This downward trend shows that we will see a population decline crisis in the next five years.

"Even international projects have raised concerns about this," the demographer said, noting that as we face a slowdown in population growth. These include the International Project on Population Crisis in Iran and the NATO project on Early Aging in Iran.

Ghassemi Babian, who today has comprehensive plans for a population crisis in the West, said: "Unfortunately, in Iran, there is no serious desire to resolve this issue.

The country's elderly will triple in the next five years

Concerned about the increasing number of elderly people in the country, the demographer explained: Since year two, the country's elderly population has doubled. This way of increasing the number of elderly people shows that in the next five years the old population of the country will triple.

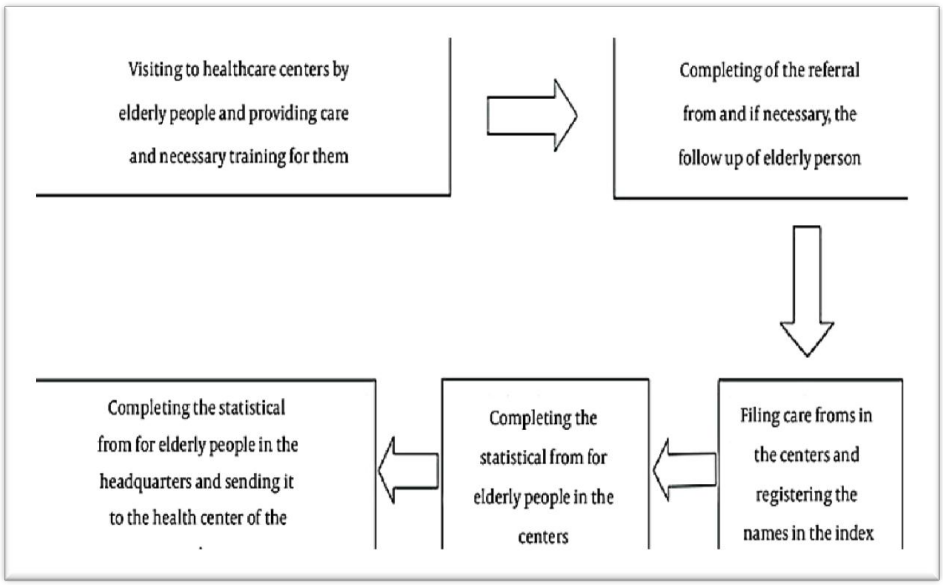
He said that at present about 5% of the population is over 5 years old, he said: According to population changes and futures in year 2 more than 2% of the population will be over 2 years.

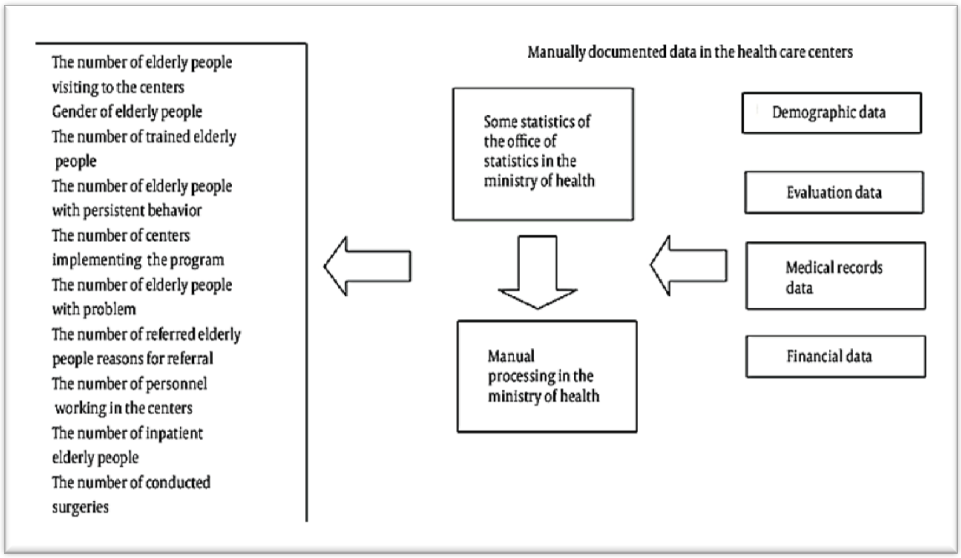
"We believe all institutions and organizations responsible for dealing with premature aging in Iran should be ready," he said.

DR.Qasemi said that unfortunately, the relevant institutions have no plans for this phenomenon, saying that the country's organizations should face labor crisis in the face of this crisis, as some Western countries have been forced to immigrate or migrate due to lack of labor force. And. As a result, if we do not plan for this, we will have to enter the workforce in the future.

He also explained about the consequences of immigrants: As immigrants enter the country, the culture of families and the level of social employment will be affected.

DR.Qasemi stated that the elderly have gone through a period of creativity, production and work. They find.




Increasing the number of elderly people and the possibility of bankruptcy of service providers in the future DR.Qasemi said that the elderly need the most services and infrastructure in terms of

social, economic and service and this has an impact on the country, adding that this also threatens the social security structures and the military and security dimension of the country as the number is growing. The elderly have increased the social and welfare needs of their respective institutions and this has an impact on the country's policies and capacities.

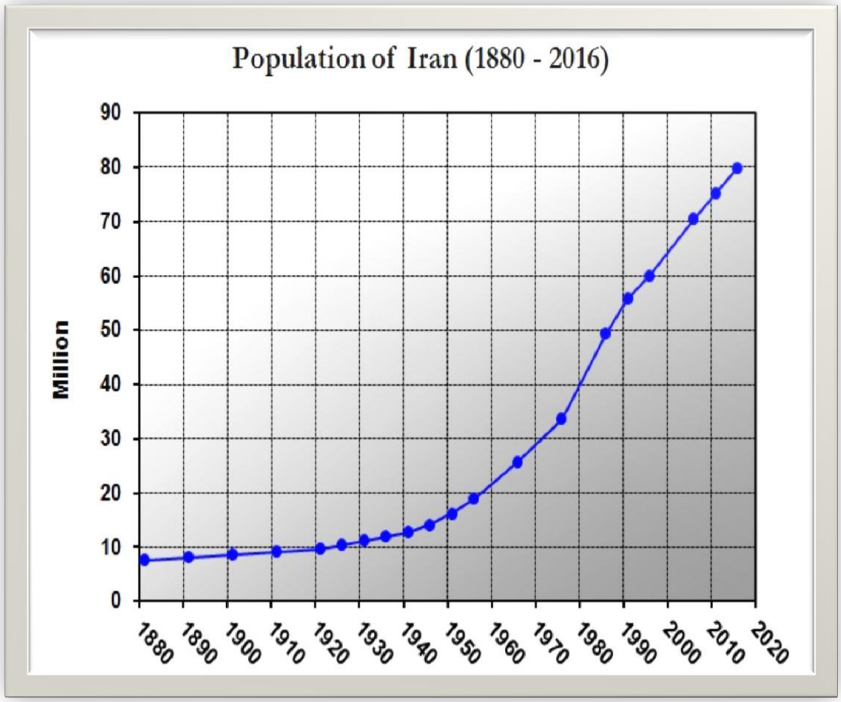
This population researcher stated that the elderly are in dire need of treatment and social services, and said: "Most use of health and social services is provided by the elderly, which is why the elderly need the most support in terms of social security, welfare and health. have.

Qassemi continued: If the aging process continues in the country, the Social Security Organization and the Ministry of Welfare will see a large number of bankruptcies in the next five years."We need serious planning by the government and responsible agencies to deal with the crisis of premature aging," the demographer said.The general policies of the population have been completely ignored.He explained about the general policies of the population, which were communicated to the institutions by the supreme leader of the revolution in the year 4, "Unfortunately these policies have been completely neglected and no attention has been paid to th.

**TEHRAN – IRNA NEWS - Some experts believe that 30 percent of Iran's population will grow old within the next 30 years, so plans to increase fertility and take measures to protect the elderly are necessary.**

According to IRNA's analysis, commentary and research group, the country's population is moving toward aging and aging. As Mohammad Esmaeel Akbari, the senior adviser to the health minister, said at a meeting recently, 5 percent of Iran's population will grow old within the next five years. He added: "In our country, the rate of growth of aging is worrying, as in the next 5 years, 5% of the population will be old, and in the next 5 years, 6% of the Iranian population will grow old." That means one out of every three people will be old, while the old person will not have the power to produce and the other person will have to spend. People who are now 2 years old, 5 years old and 6 years old are joining the old age group, with an average of 5 percent of older people in Iran and 2 percent of them literate. So in the elderly age group they have 5% illiterate and 5% jobless and they are in the hands of the youth of the country.

He also said that since the overall fertility rate has dropped, we no longer have young people to serve. Babies born right now will carry heavy burdens in the future. Although this has happened in the western countries, they are constantly seeking to monitor and control what we have abandoned in the country.




Therefore, we discussed with Mahmoud Mushafiq, professor of demography at Allameh Tabataba'i University, regarding the importance of the debate on aging and the issues and problems that result from the debate on aging.

The world's aging population Concerning the world's aging debate, Moshafiq said: UN population forecasts for year 6 based on the average scenario show that the number of elderly people in the world will double from year to year. That is, by year 1, if there are 2 billion elderly people in the world, that number will reach over 2 billion elderly people by year around the world.He added: In year 3, according to the UN average scenario estimate, I had one in five people out of 5, which in turn reaches 1 in 2 for every 4 people. This indicates that the population of the world is moving toward an aging population structure, and of course, with each country at what stage of population transition and population transfer, the number, percentage, and population of the elderly will vary. As countries now in their final stages of population transition, such as Japan and European countries, have the highest number of elderly people, those in the later stages of aging are in their mid-teens and countries that have not yet begun to transition.

The Sunni Pyramid of the Iranian Population

Concerning the Sunni Pyramid of the Iranian population, Iran's population is reported to be around 3 million by the year, according to estimates by the Iranian Census Bureau, reaching

about 2 million by the year. Year 2 will come. In year 2, about 2 percent of our population was 2 years and older, reaching about 2 percent in year 2 and 2 percent in year 2. That is, we can say that by the age of one-fourth of Iran's population will be aged and if we consider the age of 4 or 5 we can expect that in the next few years we will have a growth rate of 2% to 5%. Let's say that it is 2 times the growth of the total population of the country.

In fact, if, for example, the population is growing at 0.5 percent, our elderly population will grow at about 2 percent. That is, population accumulation increases with ageReasons for population agingConcerning the causes of aging in Iran, Mushafiq said: "The definition that has become of aging is the continuous and continuous increase in population between the ages of 2 and 4, and why is this happening?" For three reasons. The first reason is the increase in life expectancy. As life expectancy increases, life expectancy increases with age, and as life expectancy increases, the number increases and the percentage increases. The second factor is that fertility is in fact a continuous decline to below the succession limit. That is, the lower the fertility rate in a country the faster it reaches a younger age, the faster it will enter into old age. The third factor that affects the population's aging is the accumulation of age in our country. There was a sudden increase in the population, which is now accumulating at a young age, and another decade or two in middle age, and then this population accumulation is entering an aging period. So countries that have had an explosion of fertility at a time of their demographic transition will experience population aging with greater intensity, including our own.

This means that the same population explosion we had in the 8th, 6th and 6th years is now in the middle ages between 2 and 4 years, and as these people grow older and older, the volume of entry increases as they age, As the volume of input increases, it intensifies the needs of the elderly.The problems that come with aging

Concerning the problems and problems that come with aging, Mushafaq said: "Elderly is happening in every country and it is an inevitable process." The problems that aging can cause are some of the demographic, economic, and social problems. One of the gains in aging is a decrease in the working age population and an increase in the burden of dependency on the elderly, this time increasing dependency and decreasing the population at an early age.

## Iran Year 2050 /It has 24 millions elderly people

**The Deputy Health Minister announced that Iran will be the oldest country in the region and one of the oldest in the world for the next three decades, although some demographers say that these salinities are not!**

**The oldest country in the region**

Dr.Alireza Raisi, deputy health minister at the Ministry of Health and Medical Education, said: "We have controlled under-five mortality and life expectancy has increased by 5 years. Delay in marriage, distance of marriage and childbearing, and distance of first and second and single children are issues that need to be corrected. If we go that way, we will be an old country in the next three decades. If the current trend continues, Iran will be the region's oldest and the world's oldest in the next three decades. "He added:" Over the past four decades, life expectancy has increased from five years to more than five years. Is. According to Year 2 statistics, life

expectancy in older men is 2 to 4 years, to 2.5 years and in women to 2.5 years. According to the same statistics, 4.3 percent of the population is elderly. In about five years, the country's elderly population will reach 5% and one in three will be elderly. The highest age is in Gilan and the lowest is in Sistan and Baluchistan. Population growth is also on the rise in Alborz and Mazandaran provinces, more than any other province. "

**10 Older Countries**

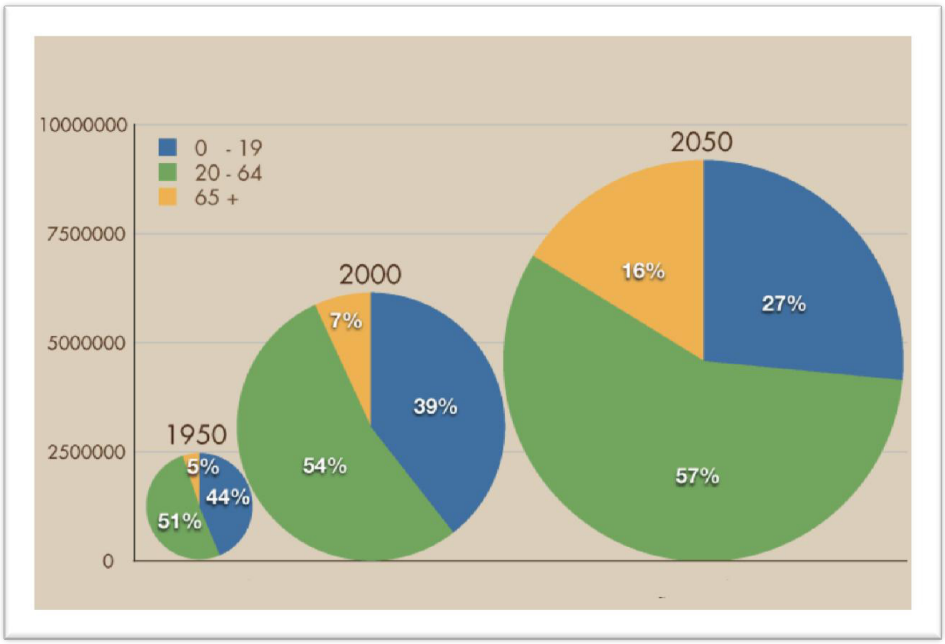
**Percentage of population over 65 years**

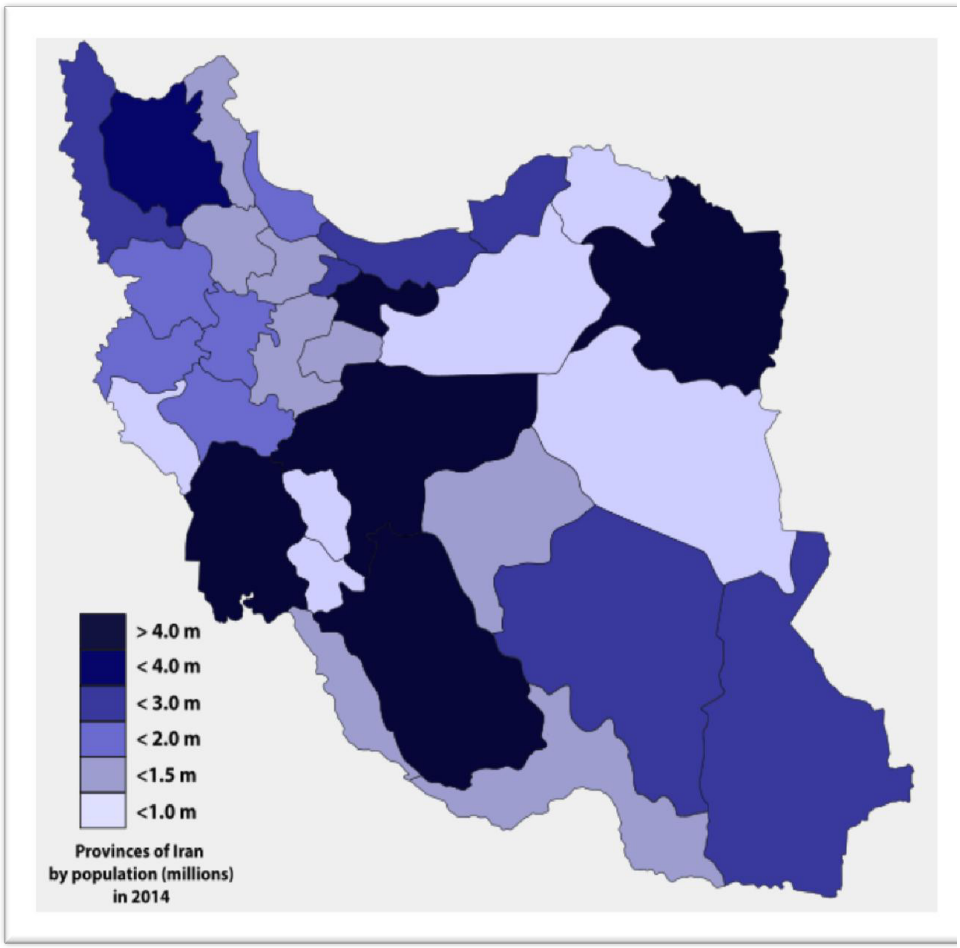
**Japan 4/26 Italy 7/21 Germany 4/21**

**France 7/18 Sweden 2/18 United Kingdom 1/18**

**Australia 15 America 7/1 South Korea 13 China 5/9**

## The world's aging population






## 2.5 Normal changes in old age

In general, it can be said that normative aging can be examined in different dimensions: physical, cognitive, emotional, social and behavioral.

### 2.5.1 Physical

**Sensory changes**

Vision: Many adults may have fine and normal vision, but in the late fourth and early fifth decade of life, people may experience vision loss.

Hearing: Approximately 30 percent of the elderly have hearing problems. Statistics show that in 25 percent of people up to age 60 and 65 percent of people up to age 80, hearing loss occurs.

Taste and smell: Smell and taste are also affected by the aging process. The total number of taste buds decreases after the age of 80 years. Some people also experience a decrease in the sense of smell, which is usually due to problems with the olfactory receptors.

Touch: Body skin plays a protective role. Skin changes such as wrinkling, thinning, drying, and flaking of skin during aging make people more susceptible to pain and injury.

**Bone and muscle changes**

People are reduced in height due to the compression of the intervertebral discs shortening the spine. The weight of men is up to 60 and women are up to 70 and then decreases. It is common in the elderly to reduce muscle mass (muscle atrophy) and increase fat. As a result, muscle strength decreases. Calcium levels decrease and the bones become more brittle. Joints also cause problems for the elderly. In fact, osteoarthritis is the most common chronic problem in the elderly.

· **Elderly organ function**

With age, the ability to engage in complex behaviors and movements is lost. Complex activities depend on physical and neural capacity, which increases with age and decreases in the capacity to expect behavioral complexity. Numerous studies have shown that gesture control decreases with age. This decline in gesture control begins in the early fifth decade of life and progresses progressively and regularly throughout life.

· **Sexual changes**

Sexual desire and function may be normal even up to the eighties and ninths of life, but the frequency (quantitative and qualitative) is reduced. Anatomical, physiological and hormonal changes make both men and women need more stimuli to stimulate and more time to reach orgasm.

Changes in the central nervous system and hormones

In general, one of the problems with aging is hippocampal injury, which causes learning and memory problems and is a natural age-related problem.

The brain shows about 17% weight loss as we get to 80 years of age

One of the causes of decline in brain function may be age-related changes in the blood-brain barrier.

There was a significant age-related decrease in dopamine synthesis in the striatumo-extrastriate (except the middle brain) in the brain autopsy of the elderly.

Changes in cardiovascular system function

Increase heart rate and intensity and decrease cardiac output. The response of the heartbeat decreases at the onset of exercise. The diastolic pattern of blood pressure changes. As a result, exercise capacity is reduced.

The aorta and its main branches tighten, and tightening of the aorta and endothelial dysfunction increases the risk of cardiovascular disease. Blood pressure rises at rest. High blood pressure is also higher in the elderly than in the young, especially in older women. Elevated systolic blood pressure reflects increased heart activity.

Leg blood flow decreases during rest, slow and fast exercise. This may affect exercise and blood pressure regulation in old age.

Feelings of thirst are reduced. Sodium renal capacity and water retention are damaged. Total body volume decreases with age.

### 2.5.1 cognitive

Cognition is the result of brain function. As the brain shows changes as we age, cognition is also expected to change. That is, as cognition declines with age.

· **Memory**

The ability or capacity of memory decreases with age. Such a decrease is especially evident in working memory, such as maintaining a phone number. But in the meantime, the memory of an event that relates to one's memories is less damaged.

· **Tongue**

The inability to recognize words is predictable in the elderly. One of the positive points of change with age is increased vocabulary. Older people have a wider range of vocabulary than younger ones. Language and memory are closely related. In language understanding, we remember what we have heard or read without conscious awareness. Understanding oral language, such as subtle memory, changes very little in late life.

**Cognitive / executive functions**

Executive functions are a number of brain functions responsible for regulating behavior. Some of these functions are: planning, judgment, inhibition, memory, attention, psychology, decision making. Studies show that among executive functions, working memory, learning ability, and cognitive flexibility, older adults are more likely to fail. There is also a flaw in the judgments and decisions of this group.

· **Information processing**

As the age increases, the duration of the assignments increases. As age increases, it reduces the number of items that need to be made available quickly in active memory. Due to changes in processing speed, one should expect slower reading speed with age.

### 2.5.2 Emotional

Some researchers believe that older people and psychologically mature people are more aware of their emotions. Emotional intelligence helps seniors to differentiate emotional interpretations from the more objective aspects of situations more effectively than young people. As a result, their coping strategies are usually to make sure their intentions are fully understood before deciding on an action.

### 2.5.3 Social

Socially the variables that are considered in old age are: retirement, the death of peers and friends, the death of a spouse, the extent or limitation of a social support network, etc. Each of these variables interacts with other internal and external variables. Positive or negative attention is given to the aging process of the elderly, with effects that are unique to each individual and can be assessed based on their personal circumstances.

### 2.5.4 Behavioral

**· Sleep**

Most seniors complain of sleep problems. These problems start in men over 30 and in women over 50. Elderly's sleep is not of good quality. Some of the factors that cause sleep disorders in the elderly include: physiological factors, medical factors, specific mental illness medications, primary sleep disorder, social-behavioral, familial and environmental factors.

**· Nutrition**

Elderly people need calcium and vitamin D to protect their bones, zinc and vitamins E, C, B6 to protect the immune system, and vitamins A, C and E to prevent free radicals. It should be remembered that the body's needs change with age and we may need to use some vitamins and proteins to suit our body.

Seniors who exercise regularly are more physically fit and mentally positive than their peers.

Alzheimer's Disease: The Most Important Challenge of Aging

### 2.5.5. What is Alzheimer's disease?

Alzheimer's Disease is the most common type of dementia with a gradual onset that progressively over time affects memory and other mental / cognitive abilities such as thinking, reasoning, and judgment, and the individual is having difficulty in the daily tasks of life. Be.

It begins with short-term memory impairment and, in people with disabilities, due to involvement in other parts of the brain, symptoms such as: cognitive disorders (such as language

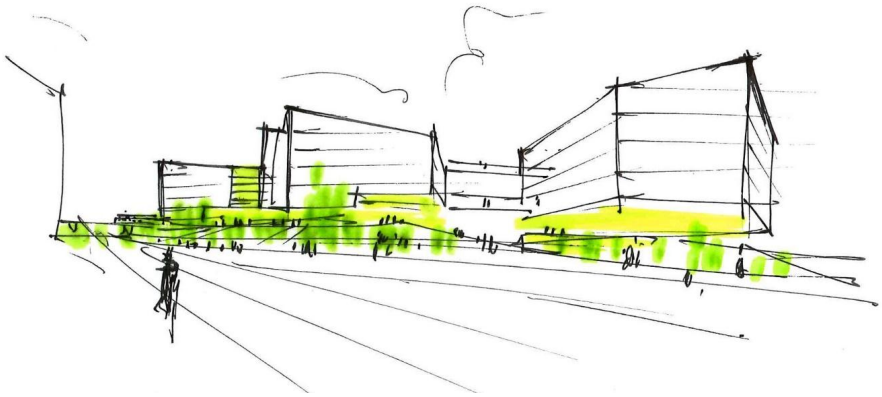
impairment, thinking, judgment, reasoning, orientation, decision making, resolution) Problem, learning new things, attention, reading and writing) mood disorders (such as irritability, anxiety, depression, weakening emotional / emotional abilities, paranoia, sleep problems, sudden and unintentional emotional reactions) behavioral disorders (inappropriate behavior) Predicting, restlessness or mobility, on the other hand, obsessive-compulsive behaviors, removing others' means, repeating one Behavior or speech, personality changes, loss of motor coordination and indecent behavior).

### 2.5.6 the outbreak of Alzheimer's disease

According to current statistics, everybody in the world affects Alzheimer's every 4 seconds. Based on epidemiological data

### 2.5.7 The following is a table of genes involved in Alzheimer's disease

| Gene symbol | Descriptio |
|---|---|
| APP | amyloid beta (A4) precursor protein |
| COL25A1 | collagen, type XXV, alpha |
| BPTF | bromodomain PHD finger transcription facto |
| PSEN1 | presenilin |
| PSEN2 | presenilin |
| CLSTN1 | calsyntenin |
| APOE | apolipoprotein |
| GSK3B | glycogen synthase kinase 3 bet |
| CHAT | choline O-acetyltransferase |
| APBB1 | amyloid beta (A4) precursor protein-binding, family B member 1 (Fe65 |
| PSENEN | presenilin enhancer gamma secretase subuni |
| LRP1 | low density lipoprotein receptor-related protein |
| NCSTN | nicastri |
| CDK5R1 | cyclin-dependent kinase 5, regulatory subunit 1 (p35 |
| GSK3A | glycogen synthase kinase 3 alph |
| CASP3 | caspase 3, apoptosis-related cysteine peptidas |
| APBA1 | amyloid beta (A4) precursor protein-binding, family A member |
| APBA2 | amyloid beta (A4) precursor protein-binding, family A member |
| CASP2 | caspase 2, apoptosis-related cysteine peptidas |



## 2.6 Sustainable Architecture

### 2.6.1 Current human need for sustainable architecture

Charles J in the last chapter of his book, "sustainable architecture" mentions that the destruction of the earth by us causes extinction of 27000 biological species in a year. 74 extinctions in a day or 3 in an hour. New documents based on Times, January 2000, show this number more than that, means hundreds of extinctions in a day, global warming, attenuation of ozone layer due to the use of different pollutants, environmental pollution mix up together to show the necessity of ecology for next generations.

The cause of sustainable architecture's development

In today's world, development as one of the major factors in the environment and consequently, construction that is a major industry that causes disappearance of farmlands, soil erosion and environmental pollution and endangers the public health; it also causes the energy crisis, a crisis that came up in the mid 1960 by increased pollution and formation of pro-environmental groups and coined the concept of "sustainability". The word "sustainable" was suggested by the Committee on environment and development for the first time and its definition gets wider day by day.

### 2.6.2 Definition of Sustainable Architecture

It is defined as to manage a clean, healthy environment based on natural resources utilization and ecological principles. The aim of sustainable buildings design is reduction of environmental damages that includes the following rules:

1. Reduce consumption of non-renewable resources.
2. Environmental development
3. Elimination or reduction in toxins or factors that damage the nature

Therefore, "sustainable building" is defined as: A building that has the fewest incompatibility with the environment, and to a wider scale, with the region and the world.

Construction techniques try to provide an integrated socio-economic quality in a wide area, so a rational use of natural resources and proper constructing management, helps to conserve natural resources and reduces energy consumption and a better quality of environment.

The main aims of sustainable buildings:

1. Proper utilization of energy resources.
2. Prevention of pollution
3. Adaptation to the environment

### 2.6.3 Principles of sustainable development

To make a balance between biological variations, 3 principles of sustainable construction development should be followed:

1. Sustainable use of bio-resources: Means that we should consider where the exploited bio-resources are used and how to keep them sustainable and use resources that replace faster. E.g. wood should be used from trees that grow faster and can be replaced. Also use of a variety of resources that don't cause extinction of particular species. Forests should be protected and their area shouldn't decline to less than a certain amount.
2. Use of non-renewable resources: Rational use of non-renewable resources should be followed extensively; for example use of fossil fuels is irrational, or chair is made up from wood because it is replaced faster. Rational use of wood (as a non-renewable resource) causes no damage to the main source of energy, and even the type of color used for it, to be from substances that has the least damages to the environment.
3. Protection of biodiversity: Bio-resources should be conserved and social participation to achieve this is necessary. Social media should be used in a way that all elements support each other and people benefit properly from natural resources. They should be trained to use the resources properly; for example, about urban furniture they should be trained not to put the furniture away just because of a small crack on it, but it can be fixed or even turned into a new product.

### 2.6.4 Sustainable design and its basic principles

It is a thoughtful collaboration of architecture with mechanical, electrical and structural engineering. In addition to common design factors like beauty, congruence, texture, shadow, light and other facilities that should be considered, the design group should consider long term environmental, economic and ethical factors which are as the following:

1. **Environment comprehension**

Sustainable design starts with a comprehension of the environment. If we are aware of the facilities in our environment we can protect them. Environment comprehension leads to determination of design levels such as direction of sun exposition and protection of the environment.

2. **Contact with the nature**

Whether the building is in city or a more natural place, a designed contact with the nature would be freshening.

3. **Understanding the nature processes**

There is no rubbish in the nature's system; which means that the carcass of one creature, is another creature's food, in other words, it causes human respect toward the needs of different species. Processes that cause revival rather than waste.

4. **Understanding of environmental effects**

A sustainable design attempts to understand the environment's effects by assessing and analysis of the site, assessment of energy consumption, materials' toxicity and construction techniques in a way that the adverse environmental effects can decline through some changes.

### 2.6.5 The participatory process of design

Sustainable design considers all ideas. Collaboration with engineers and other specialists happens in the early stages of design. Designers also note the locals' ideas.

**Understanding the people**

Sustainable designers must note the culture, religion and race of people who they are going to design so far. Therefore, sustainable design has a multi-value structure: aesthetics, society, policy, or in other words, design and construction according to the environment which means an architect should consider some factors shrewdly; resistance, stability and longevity of the building, suitable material and concept, and generally all the principles of sustainable architecture should be met.

Finally, we will mention 6 principles about sustainable architecture:

1. Each building must be designed and constructed in a way that it requires the minimum fossil fuel.

The necessity of this principle in the past is undeniable considering the construction techniques. And maybe just because of the broad variety of today's material and techniques it is forgotten in the cotemporary period. The theory of biological complex is also important, which originates from providing a shelter in the cold, and a proper space for living. As a result, people built their buildings next to each other's because of many advantages. Buildings that were built to interact with the climate and strive to reduce fossil fuel consumption and were different from today's common apartments that are built as uncompleted strives to create green architecture.

2. Working with the climate buildings must be designed in a way they would be able to utilize local climate and natural energy resources. Their shape and interior spaces' location can be somehow that boost the indoor comfort, and at the same time reduce fossil fuel consumption by proper insulation. The 2 mentioned processes are totally collaborated. Before the widespread expansion of fossil fuels, wood was the main source of energy that still provides 15% of today's energy. When wood became scarce, it was normal for many people to use solar heat to provide energy.

### 2.6.6 Roman use of solar energy

The Romans continued to follow the principles of solar design by learning from the Greeks, but they utilized transparent windows, which were an invention of the 1st century BC, to increase heat. With shortage of wood as a fuel, south facing façade became popular for the rich and other people's houses. Design considering the climate isn't limited to heating rules; in many climates architects have to design a cool space to create a favorable condition inside the building. The common contemporary solution is to use air conditioners that use high amounts of energy, which is wrong even when energy resources are cheap and abundant, due to the pollution resulted by them. (Azizi, Mohamad Mahdi 2001)

**Less use of new resources**

Each building must be designed in a way that minimizes use of new resources and makes the resources to form other structures, although the outline of this principle is similar to others, but it must be noted that the most available resources in the environment is as important as creation of new structures to reduce bio-environmental effects. It should also be noted that there isn't enough resources that can be used to create artificial environment to reconstruct each generation.

Recycling buildings and the elements within them is a part of architecture history; for instance the Santa Albas Monastery that was rebuilt in 1071, 1115 AD. Bricks of an old Roman building nearby were used in the process. Wooden frameworks used in the Middle Ages were pieces of wood which were cut and attached to each other, then were coded, and finally were separated from each other and transferred to the buildings. Applying this method meant parts of a medieval building can be changed when necessary.

**Respect to users**

Green architecture respects all people who use the building. It seems this principle has little to do with the pollution caused by the global climate change and ozone depletion. But green process, which includes a respect for all the common resources that complete a building, exclude humans from the complex. All buildings are built by the humans, but in some structures, human presence is respected, while in others it attempted to deny human dignity. In Japan some robots have taken on the human role in building design, but for a robot, an efficient performance at the project, involves performing a particular task which it can repeat. But, in a different scale, a human being as an architect also can rely on his skill in doing many irrelevant tasks.

**Respect to the site**

Each building should touch the globe gently. The Australian architecture Glenn Morkat says: "He touches the globe gently". This statement shows one of the features of the interaction between the building and its site which is necessary for the green process. It also contains widespread features. A building that consumes energy avariciously, causes pollution and never touches the globe gently. A more straightforward interpretation of this statement is that not every building can be brought out of the site it was built in, and renovate the before construction condition in the site. This kind of connection to the site is seen in traditional Bedouin Arab settlements. The peace in them wasn't only found in their moving system, but also their materials and the possessions they carried. The black tents of the Bedouin Arabs were provided by goats and camels' wool; when these tents were erected, creation of aerodynamically highly efficient cross-section, prevented its destruction in strong winds. The tents are kept in their place by ling ropes and a few wooden beams, because wood is really scarce in deserts. In human societies, they abandoned their indigenous and traditional ways of living and architects entered into the design field.

**Holism**

All green principles require a holistic process to build an artificial environment. Finding buildings based on all the green principles is not easy since this method is not well-known yet. A green architecture should include a sustainable form of urban space. Human being is more that sets of buildings; in fact, it is a set of organizations for life and entertainment and by a closer look at these organizations we can picture the future human being. (Kasmaei, Morteza 1389)

## 2.7 Examples of buildings with sustainable architecture

### 2.7.1 Glen Mouse Building

This building in Santa Monica, California, is the best of environmentally friendly structures. This building generates its needed water and electricity and it emphasizes optimal energy consumption.

### 2.7.2Hurst Building

It has 46 floors. It is a green building in New York City. Its unique shape has caused 20% save in its steel consumption. Indoor light adjustment is done through a heat sensor which is sensitive to the sunlight. Most of the outside air is used for the building; it is used to condition the inside; therefore this building emits 22% less carbon dioxide into the air.

### 2.7.3 Green Roofs

Cities' development has destroyed the natural environment and farms. Therefore, making and developing green spaces plays an important role in all creatures' lives and can be an alternative for the disappeared environment during construction. There are many new technologies to reduce the human impact on the earth, like: alternative energy resources, effective use of natural resources, farming without use of industrial substances and green coverage of roofs. Green roofs are a part of efforts to make cities sustainable and one of the modern solutions to urban problems. (Ghiasvand, Javad, 2008)

Green roofs have many advantages such as:

- ❖ Reduce flooding
- ❖ Keep the air clean and prevent emission of aerosols
- ❖ Reduce the impact of heat islands in cities by cooling the air
- ❖ Provide a quiet place for the bird and other species
- ❖ Improve energy efficacy of buildings
- ❖ Provide facilities for urban agriculture and botanicals

Effects of green roofs is in the societies' economy; which include:

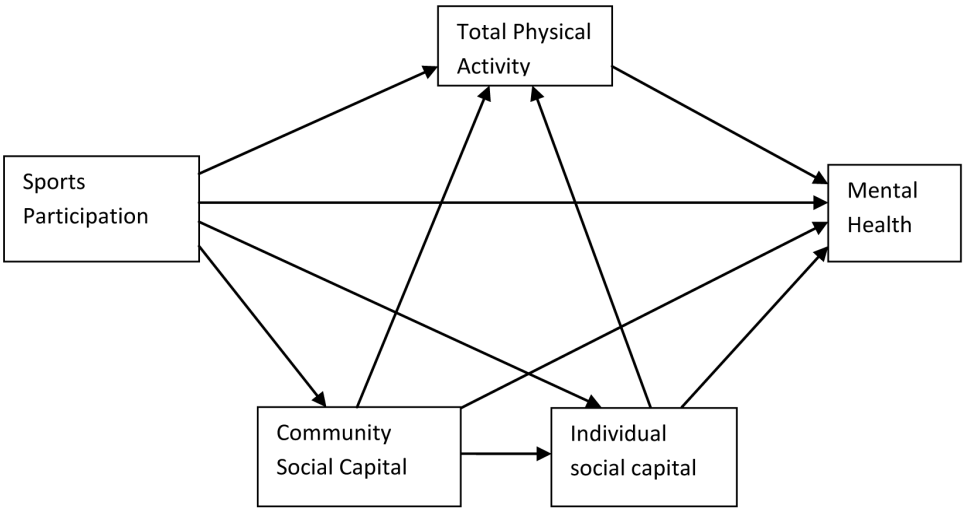
- The moister insolation layers mounted on roof prevent UV and chemical damages and acts as an insulator against heat waves. This feature doubles the moister insulation layer's lifespan and saves costs.
- Insulation of green roofs, reduces the building's energy requirements significantly; and also noise pollution. The aesthetic and natural attractions of green roofs make the building more valuable to many users and agreeable to every taste for commercial, organizational and residential applications. (Ghiasvand, Javad, 1386)
- Construction of green roofs systems that are designed for green roofs are lightweight, durable, interesting and require less handling. At first, the water proofing layer us installed, then proper drainage is done to allow excess water to flow from the rood. A perfect growth environment is essential for the success of the green roof. This environment unlike natural farmlands which are often used for sloping landscape is perfectly designed for the environment and doesn't turn heavy when wet. Finally, the plants are planted. Plant coverage is used in the cold and heat to produce clumps of plants that look like local natural ecosystem and coastal grasslands. Plants used for this aim are commonly herbaceous, perennial herbs, flowers, wild grasses and mosses.
- Widespread green roofs, made in Germany (DELTA®) applicable on buildings' roofs.

- Increase the lifespan of the underlying waterproofing layer.
- Minimize fluctuations in indoor temperature and cool in summers.
- Increase heat protection and preserves valuable thermal energy
- With high water storage capacity, they reduce the load on the sewage system
- Act as an acoustic insulation
- Reduce dust and pollution, generate oxygen and improve scenery and the climate
- Help to meet buildings standards (Iranian Journal of Architecture and Urban Planning, 1389)

## 2.8. Sction1: Body Building

### 2.8.1 Sport's role in mental-social health

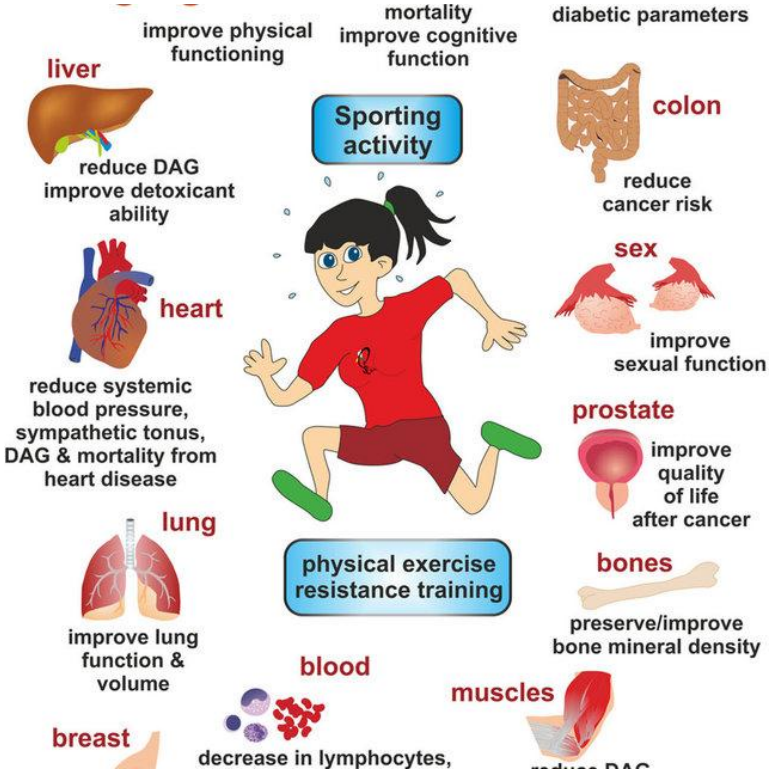
Exercise and regular body movements in addition to physical health, have a lot of mental-social health benefits. Sport help to cure disease like depression, and also enhances memory power. In the contemporary world, sport has a special place as an effective phenomenon in all societies. The relationship between physical activities and different disciplines, has provided new study fields for human beings, and the expansion of sport related subjects are so wide that has created the need for specialized science and studies. In this paper, according to the chosen subject, mental-social part has been studied and all the provided content is applicable and can be used by different age groups.




### 2.8.2 sport's role in socialization

Socialization research in sport has been directly linked to the development of sociology of sport during the 60s and early 90s, lots of efforts were made to explain different aspects of participating in sport activities. Most of the socialization research in sports has focused on 2 issues; one is antecedent of participating in sports and the other consequences of participation. These 2 processes are called socialization in social role and socialization through social role. Therefore in most references the 2 titles: "socialization in sports" and "socialization through sports" can be seen. In the first one individual socializes along with a sports role. Socialization through sports include sport's role on beliefs, attitudes, It is assumed that the lessons we learn from participation in sport events are transferable to other social aspects and in this way it helps individuals to be successful in these areas.

Danesh states that children acquire communication skills by participation in sport events. Physical education is important for people especially students to take responsibilities to instill social values and is effective as a factor to enhance social values and dignity. Socialization and its relation to sport reached its peak level when an international seminar of "socialization through sports" was held in 1971, Canada, and concluded that physical culture is an important factor in socialization. In Roger Kayo's opinion, civilization has only appeared in the shadow of supremacy and the supreme value of championship, means the competitive game, which its origin is democracy and people's rule over people. Children's socialization process starts with their primary physical activities and causes their growth and motor development in childhood and later years.

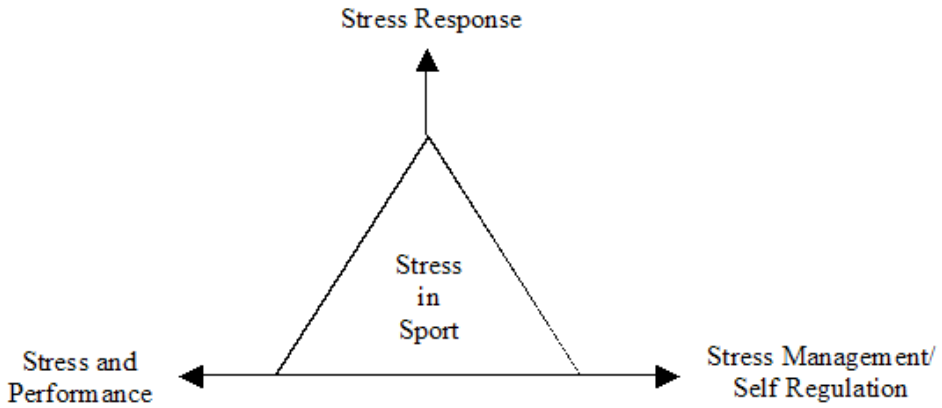



### 2.8.3 Effects of sport on character

Social character reflects proper and natural mental development. If physical education in a society complies with the principles of this science, athletes will come out of individualism and self-centeredness and this will improve natural moods, which as a result of this talent, individual communicates with others more easily. George Kelly, a famous psychologist defines personality as the particular way and manner of each person to find and interpret the meaning of life. Research show that athletes and champions, are brave, dedicated and have strong will.

Games and sports are closely related to child's personality's growth and development and his socialization. Scientists have done a lot of research about game's role in socialization and also about how physical activities, generally affect "body image", an image on which the concept of self-body is based, and is the basis of the child's personality. Motor activity generally provides a great opportunity for the child's self-development. When a child plays, he experience victory and defeat and this affects his imagination power's development, and his goals, and boosts up his realistic perception of his body's limits and disabilities, which forms his social personality, gives him confidence, and keeps him away from traits like pride and self-centeredness, without

diminishing his values neither to himself nor others. It is also believed that sport acts as a mediator and agent of communication between the individual and himself or others. This cognition can be involved in social adaptation and personality. About the relationship between exercise and personality traits, Isaac by making an important list of exercise and personality research's results, concluded that there are 3 good areas of personality related to exercise such as extraversion, neuroticism and psychoticism and some traits are closely related to sport. "Sport induced changes happen gradually and slowly after years, since sport changes the sympathetic neurons system, expectations and values." he says.




### 2.8.4 Sport's role in depression decline

According to researchers, exercise increases happiness, joy and confidence, because depressed individuals either lack self-confidence or suffer from low self-esteem. Exercise enhances inner satisfaction and one's sense of achievement. Exercise is effective in treating many diseases including depression. 30 minutes of exercise every day can decrease depression's complications as much as some psychology methods and antidepressants.

According to the university of Texas Medical Center website, psychiatric examinations show that 30-35 minutes of exercise every day can reduce effects of depression by half, which equals the effects of some antidepressants. Using the results of this study, psychiatrists intend to develop a complex approach of psychotherapy and exercise in order to cure depression.

**The advantage of sport in improving depression**

- Feeling a marked reduction in sadness.
- Boost in self-confidence
- Create a sense of accomplishment

### 2.8.5 Using Telehealth to Treat Depression in Elderly Patients

Depression can be caused by a number of environmental, social, and biological factors and shows different symptoms as we age. With the elderly population growing, it is important to understand the symptoms and treat them effectively. Enter telehealth.

### 2.8.6 Signs of Late-Life Depression

While the Centers for Disease Control and Prevention (CDC) estimate that only 1-5% of older adults living in the community have major depression, the prevalence of depression increases to 11.5% in older hospital patients and 13.5% in those requiring home health care. In the elderly population, untreated depression can be fatal, with Caucasian males experiencing the highest risk for suicide and non-suicidal mortality.Late-life depression is often missed by medical professionals as the symptoms of depression change throughout life and can be caused by medication for other illnesses. In older adults, symptoms of depression include frequent memory problems, confusion, loss of appetite, delusions, and social withdrawal, many of which are seen as typical parts of aging. The National Alliance on Mental Illness has issued clues to help caregivers, family members, and clinicians recognize late-life depression: persistent and vague complaints, help-seeking, moving in a slow manner, or demanding behaviors.

### 2.8.7 The Role of Technology in Treating Depression

The National Institute of Mental Health outlines treatments for depression, beginning with an exam, interview, and lab tests done by a health care provider to rule out physical causes of the symptoms. Once diagnosed, depression can be treated with medication, psychotherapy, or a

combination of both. In the United States, healthcare professionals are not evenly dispersed. In rural regions, there is a severe shortage of Mental Health Professionals, with 47% of non-metropolitan counties not having a psychologist and 67% not having a psychiatrist. Experts have observed that limited access to mental health care often correlates with drug abuse, suicide, and other public health crises.Video conferencing and direct messaging enable clinicians to provide behavioral health services to patients through an intuitive platform, from a remote location. Telehealth allows patients to receive effective, high-quality mental health care in any region, rural or not.

### 2.8.8 Telehealth Outcomes for Depression in the Elderly

In an article published in the Journal of the American Geriatric Society, a telehealth intervention called Integrated Telehealth Education and Activation of Mood (I-TEAM) was used to treat comorbid depression resulting from chronic illnesses. The I-TEAM treatment included daily telemonitoring of vitals, symptoms, and medication intake, in addition to weekly virtual therapy sessions to teach patients problem-solving skills. The telehealth nurse also coordinated with patients' primary care physicians, who were responsible for prescribing antidepressants.Those receiving the I-TEAM intervention were compared with a control group who were undergoing standard in-home care augmented with psychoeducation (UC+P) on the disease and the importance of managing their condition.At both three and six months of enrollment, patient data was collected on depression levels, health and functional status, and problem-solving coping skills. Data was then analyzed for comparison. The results found that after three months, patients receiving the I-TEAM intervention had significantly lower scores for depression (7.4) when compared with the UC+P group (14.1), and greater problem-solving abilities (I-TEAM, 14.62 vs. UC+P, 8.49). There was no significant difference between the group's physical health scores. These findings encourage the use of telehealth interventions to treat depression. The study argues the I-TEAM as a feasible health care option across urban, suburban, and rural areas as it uses evidence-based practices and can be delivered remotely by telehealth nurses. Those who stand to benefit the most from telehealth services are those in medically underserved populations. Telehealth allows for exemplary and essential treatment for all those suffering from late-life depression, regardless of location. As more and more agencies integrate telehealth into their provided services, the future of telehealth for mental health care is bright.

## 2.9 Massage Therapy

### 2.9.1 Preface

Some diseases can be treated by massage, called massage therapy and can be applied for relaxation. Today, this method is a branch of complementary medicine for some diseases treatment, has many fans. Simple massage procedures performed in non-medical centers to relax the clients also have medical benefits. But this type of massage shouldn't be mistaken with medical type which its aim is disease treatment. About this subject, we discussed benefits of massage therapy with Sayed Mohamad Mousavi, a researcher in traditional medicine and a member of the Iranian Islamic medical association.

### 2.9.2 What are the benefits massage therapy?

A principled massage is better for disease prevention and treatment.

Message is a method for fastening and regulation of blood circulation and pain relief. Especially in older ages, rubbing body parts is incredibly beneficial for longevity, until it is done on a regular basis.

Generally, massage therapy and rubbing herbal oils lead to proper circulation, regulates and invigorates the blood circulation, nourishment through skin, hematopoiesis, heating body tissues, excretion of toxins, fatigue, and entertains different body parts and it can boost up patient's mood. Additionally, in cancerous patients who are usually anemic, as hematopoiesis has a significant role in eradication of the cancerous cells, a massage with some herbal oils and ointments is applied for the patient. In this method we rub the patient's body parts for 4 days in a row, on the fifth day, he takes a bath, on the sixth day he rests. The reason that we do the massage 4 days in a row is that we want the oil to be absorbed by the desired depth of the skin.

### 2.9.3 The role of massage therapy in reducing sport injuries

According to studies at the University of Illinois, Chicago, massage therapy increases blood circulation and reduces muscle burns. The results of these studies were published in the journal of sport medicine and rehabilitation. These studies found that massage improves blood vessel efficiency. These studies showed the efficacy of massage in exercise and injuries. A group of

adults were recruited for these studies. They were asked to work out with leg press machine and receive massage after workout too receive muscle soreness.

## 2.10 Section 3: Water Therapy

### 2.10.1 Water Therapy, pros and cons

Hydrotherapy in the past was used a lot by the Iranians, the Japanese, and the Greeks because of its numerous benefits. Probably, the easiest and most convenient thing used by athletes for fatigue relief, and relaxation is water. Taking a warm shower is normal after marches or after heavy daily activities, which all players do it consciously or not. It is a common method and unlike most other ways satisfies athletes. Considering its advantages it can be done easily by understanding the physiological and therapeutic effects of water.

Modern hydrotherapy is probably because of Dr. John Flyer. Perhaps use of water in fatigue relief in athletes and achieving physical and psychological well-being has existed as long as human beings. This method is used to relieve pain and relax the body. From its advantages, we can mention its public availability, lightening of body weight in the water and its popularity to everyone; also it is cheaper than other methods, and water temperature is easy to measure.

### 2.10.2 Water and Fatigue Relief

How can water therapy relieve fatigue in athletes? To answer this question, the physiologic feature of water should be assessed. Generally, when exposed to water, the following changes occur in the tissues and body organs:

1. Increase in body temperature: Depending on the water temperature, the body temperature also varies. In most cases the pool water temperature is between 34-37º c and the temperature of the athlete's tissues and muscles also increases slightly.
2. Increase in metabolism: Increased temperature in different tissues also increases general metabolism in them.
3. Vasodilation: Increased temperature of water causes the body to heat up and consequently leads to vasodilation. Additionally, vasodilation can be caused by increased metabolism of cells which need extra oxygen and more elimination of metabolic wastes.
4. Increased blood flow: Increased body temperature enhances cellular metabolism and to compensate this, the body increases blood flow. So as a conclusion, blood flow increases as a result of being in warm water.
5. Increased cardiac activity: Following the vasodilation and enhanced blood circulation, blood flow to the heart and cardiac output increase according to Frank Starling's law (the greater blood flow to the heart, the more cardiac output it has). Following the above mentioned physiological effects on the tissues and organs, a series of therapeutic effects are observed in the individual, including, improved nutrition status in organs and excretion of other wastes, muscle cramps as a result of mentioned changes. This pain and

discomfort of the athlete disappears. In short, it can be concluded that the therapeutic effects of water are due to its effects on the skin. In hydrotherapy, skin is a vital organ, because its receptors are stimulated by water movements. This stimulation affects the CNS and this causes the therapeutic effects of water. Hydrotherapy also affects circulation, metabolism, nervous system and endocrine secretion and finally these all cause metabolic change.

### 2.10.3. Cases of hydrotherapy in sports

Hydrotherapy is not only used for relaxation in athletes. Some of the most important cases of use include:

- As a part of immediate treatment if sport injuries that cold water (8-12ºc) should be used; for example, immersing an injured ankle or hand in cold water prevents swelling and inflammation in the injured tissue and reduces pain. Hydrotherapy can be used to treat chronic sport injuries such as, sprains, or inflammation in the tendons or joints. Some experts believe that hydrotherapy can be used at any stage of bone or musculoskeletal lesions. However, it is recommended that hot water be used in early stages of an acute and severe lesion. After surgery, hydrotherapy can be used to regain the range of motion.
- Another important use of hydrotherapy in sports, is mobility and flexibility in muscle and joints. In this case also, the intended body part is immersed into a bathtub, if possible, warm water pool can be used. The water heat softens the joints and muscles and this improves the quality of movements in injured organs. Water therapy can also be used as a part of the athlete's fitness program. It means that hydrotherapy can be used to warm the muscles up, increase blood flow to the tissues, and improve the nutrition status of cells before exercise.
- Other examples of using hydrotherapy in sports:

❖ Clean and remove foreign substances from wounds, scratches and blisters and other sports injuries that occur on the skin.
❖ Prohibition of using hydrotherapy: although hydrotherapy is a safe and uncomplicated method, and can be prescribed for most athletes, it is better to consider some points while using it.

. When there is sensory impairment in athletes, a close attention should be paid to the water temperature, because injury after using warm water in these athletes are possible. Also athletes who have problems like impaired circulation, severe infection, open wounds, cardiac or respiratory failure and endocrine disorders, must not use hydrotherapy; and because when using warm water, blood pressure drops, hydrotherapy is forbidden in athletes who suffer from heart failure.

### 2.10.4 Effects of hydrotherapy in disease treatment

Hydrotherapy is helpful in pulmonary disease, dyspnea, atherosclerosis, spinal cord diseases, backache, toothache and migraine; and also for eyes' relaxation.

### 2.10.5 Hydrotherapy for the skin

Hydrotherapy's effects are through the impacts it has on the skin. Water movements, stimulate neural receptors, which affects the CNS and consequently, the effects of water therapy become obvious.

Hydrotherapy also affects blood flow, metabolism, nervous system, blood composition and endocrine secretion. The result of all these effects, is reflected in one's psyche.Hydrotherapy for insomnia Hot water bath is a way to treat people who have light sleep. Anything that causes blood to return to the outer parts of the brain, will help cure insomnia. Lowering body temperature can help the body to sleep deeply.

### 2.10.6 Hydrotherapy for muscle cramps

When having muscle cramps, a hot water bath us helpful. When a person is submerged, he feels weightless. Moving water stimulates tactile receptors on the skin, releases muscle contractions and increases blood flow. This feels like a massage.

### 2.10.7 Hydrotherapy for back and knee pain

Hot bath therapy has had short-term and long-term effects on individuals who suffered from backache. In water, the person receive massages and strengthens muscles and joints. When the patient is in water, according to Archimedes' law, the pressure exerted on the joints, is reduced and the muscles are reinforced by the movements. This reinforcement reduces the pressure on the disk space, and joint capsule and ultimately, this decrease in pressure leads to a reduction in the severity of disease.

## 2.11 Section 4: Physiotherapy

Physical medicine, health, organ resuscitation and rehabilitation is a branch of medicine whose purpose is to enhance and improve the condition of individuals with physical injuries, including burns, or disabilities caused by an illness, cardiovascular, pediatric and old age (injuries), muscular, skeletal, tissues and nervous system (or surgical procedures). Its procedures are done

through a combination of medicines, therapeutic methods, physical practices, training in exercise, therapy, motor changes, activities and orthopedic equipment (splints and prosthesis) and new training methods.

For gathering useful information from neural system for diagnosis, several rehab physicians, might use electrical diagnostic methods which include: electrical central neural system stimulation, neurons' response evaluation and also recognition of electric potential created in muscle fibers (through entering electrode needles into the muscles). Common disease cured by these physicians include: amputation, neural tube defects, sport injuries, stroke, and muscle pain syndromes like backache, fibromyalgia, and traumatic brain injury.

### 2.11.1 Rehabilitation in neuro-muscular disease

It is unpredictable. However, an effective rehabilitation program can help to maintain the quality of life of the musculoskeletal patients and maximize the patient's physical and psychological functions and minimize secondary medical illnesses, proper surgical interventions can also be effective in this regard. But nowadays, flexible devices such as wheelchairs, and lifts, often along with computer technology, provide better strategies to improve the patient's mobility. Resistance and aerobic exercises, may also improve patients' performance in their daily activities. Among these, advances in positive pressure ventilation technology have been able to play a significant role in the decline the complications.

It should be noted that the comprehensive control of these diseases usually requires a multi-nmds system of pulmonary disease incidents in a team of physicians, nurses, physiotherapists, social, technical and psychologists.

### 2.11.2 Rehabilitation in cervical discs

This disorder can lead to sensory, motor or reflex anomalies. Rehabilitation in this disorder can include, physiotherapy and focused supportive treatment (e.g. McKenzie method) with aerobic exercise. In McKenzie method, personalization of treatment and patient training is important, because a gesture, such as stretching, may help some patients, but in others, the symptoms may even worsen; therefore, the movements of the neck, shoulder and scapula should be coordinated with the patient's condition.

### 2.11.3. Rehabilitation in arthritis and connective tissue disorders

SLE is related to inflammatory disease of the connective tissue. Systematic lupus erythematosus and antibodies affect many systems and organs of the body characterized by some spots on the nose and cheeks. In physical therapy, helpful planning is done to reduce pain, dryness and inflammation.

Aerobic exercises can be beneficial in arthritis. Isometric exercises are also useful for patients with inflammation, especially in hip and knee joints. Isotonic exercises are beneficial in reducing the inflammation.

## 2.12. Section 5: Restaurant

What is organic?

Organic agriculture is produced without involvement of composts, and genetically modified additives. In fact, organic agriculture does not use chemicals at all stages from planting until harvest. With so many choices for nutrition, from organic to processed food, the question "what to eat?" is very difficult to answer.

Rule1: Eat plants, especially leaves of plants.

Benefits:- improved blood pressure

- reduced risk of heart attacks.

- low cholesterol

-weight maintenance

Rule2: Eats meat from properly fed animals.

Rule3: Eat colorfully, the color of many plants, reflects the various antioxidants in it. The best nutrition is using various, and colorful plants.

Rule4: Eat homemade snack as much as you want.

Rule5: The whiter the bread is, the shorter your life will be

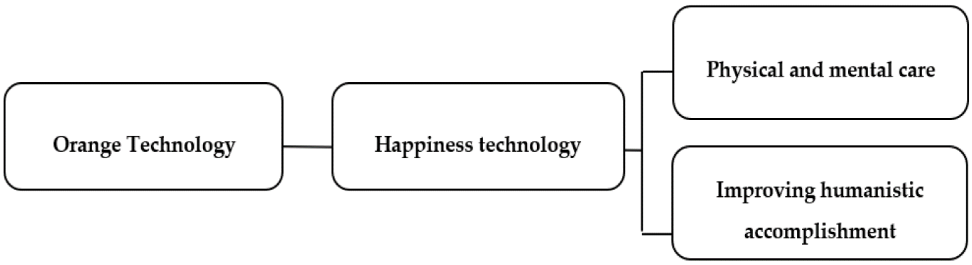
Rule6: When shopping, stay around the supermarket. Usually, supermarkets store fresh and natural food around the walls.

Rule7: Don't forget small fish. If there is only one type of food you should eat, and probably you don't, is sardine. Sardine is one of the healthiest natural foods that you can eat. It contains high amounts of omega3 and vitamins.

Rule8: Follow the traditional recipes of your country and region.

Rule9: Limit your snack intake to fruit, vegetables and cereals.

Rule10: Avoid foods that contain high amounts of sugar.




Organic restaurant is a type if restaurant which all ingredients are organic and healthy and are not harmful for public health. The word "organic" or vegan, refers to any type of planting system that does not use synthetic chemical composts, sprays, animal composts, or slaughterhouse residues. In this method, plant fertility is done through plant compost, mulch and other environmentally friendly methods, where animals are not exploited. This way of plantation guarantees long-term fertility and healthy food availability for this and future generations.

Apart from discussing "whether vegetarianism is a must or not" and "whether it should be pervasive" and other issues between vegetarians and omnivores, the vegetarian community is developing. As a result, the number of centers that serve food to them is increasing. An organic store is a store that sells organic and healthy products.

## 2.13 Section 6: Shop

### 2.13.1. Preface

All items in stores must be organic and free from any chemicals, so that all of the products are perfectly natural. Therefore, organic agriculture is in line with sustainable agriculture developments and is a set of operations aimed at reducing use of unnatural foods, eliminating the use of composts and pesticides, synthetized preservatives, chemical drugs, genetically engineered organisms and effluents. Studies show that the trend toward global acceptance of organic agriculture is promising and among its reasons are increased concerns about pollution of basic resources, food, human and animal health, as well as greater attention to the nature values and natural landscapes.

Although in organic farms, the crop yields are usually 10-30% lower than inorganic farms, under a principled planning, the yields and organic farms' income can be higher that inorganic. In Philippine for example, the yields of paddy fields have been reported 6 tones. Experience in implementing organic farming projects has shown that in low-yield areas, using organic methods will increase the yields by 2 to 3 times.

Additionally, in developed countries, factors like the costumer's readiness to shop at higher prices, the government's subsides and expansion ecotourism will increase organic agriculture's income. Studies in developed countries show that the consumers are willing to buy organic products for 10-40% more expensive price than inorganic products. Many stores today, offer organic products and the market for these kinds of products is booming. Also, the potential demand for these products is expected to grow in the future, and thus a lack of supply of organic products will provide an opportunity for developing countries to get into the market. In addition to the environmental and economic benefits mentioned above, organic agriculture has social benefits as well; it increases employment opportunities by relying more on the work force. Organic agriculture also revitalizes traditional cooking and plays an important role in social cohesion. The strategy of green Revolution also aims to provide food to the growing population (due to increased life expectancy as a result of improving provision of health services and access to better quality and variation of food in developed and most developing countries) and relies on short-term goals and maximum performance.

From the sustainable agriculture perspective, agricultural products are divided into four categories:

1. Natural products
2. Organic products
3. Healthy products

4. Guaranteed products

Natural products: Are free from synthetic chemical residues, and is produced in wild, natural and virgin areas and human beings have no involvement in their production process.

Organic products: Are produced base of ecosystem management, water, soil, plant, and human health without use of synthetic chemicals. The entire processes of production, processing, packaging, storage, transportation, working conditions, social conditions, supply and labeling these products are monitored by a certified organic standard system.

Healthy products: Contain permitted amounts of pesticides and GAP. These products comply with farming standards.

### 2.13.2 Benefits of organic agriculture

1. In this method, water is not contaminated with pollutants such as synthetic composts.
2. Ecosystem balance and soil fertility are maintained. Soil erosion is also reduced by up to 50%.
3. Biodiversity in organic farmland is 57% higher.
4. Farmers are not exposed to pesticides and chemicals.

### 2.13.3 Benefits of consuming organic food

- Organic food is higher in Ca, Mg, Fe, P, vitamins and antioxidants. They also have a higher nutritional value. They contain 50% more antioxidants than inorganic foods, because synthetic pesticides reduce the production of these substances in plants, but animal and organic composts increase their production.

- They don't contain toxic substances and additives and as a result, they are healthier.

- They are more delicious. One of the reasons is that organic crops are sooner accessible to costumers after harvest. Also, in commercially manufactured products, the processes that take place are focused solely on appearance, color, increase production and resilience to warehousing injuries, rather than its quality and nutritional value.

- Manufacturers of organic products follow very strict standards and guidelines that minimize the likelihood of contamination of such products with chemical and toxins.

### 2.13.4 10 reasons to change to organic agriculture

1. Organic products meet higher standards. Organic products certification, guarantee that no chemicals or toxins are used in manufacturing these products.
2. They taste better.

3. Organic products reduce the risk of disease. EPA found that chemicals in pesticides have carcinogenic and pathologic effects. Organic agriculture is a way to reduce their entry into water resources, soil and air.
4. Organic agriculture respects water resources. To remove pollutants and excrete nitrogen into the water, you must respect water and soil resources, and utilize them properly.
5. Organic agriculture creates intact soil. Soil is one of the main source of the food chain and one of the principles of organic agriculture is to create proper soil.
6. Organic agriculture is a modeling of nature. It values a balanced ecosystem. Live nature also includes crop rotation.
7. Organic agriculture leads the new research. Organic producers are leading the way in research about use of pesticides and harmful effects on the environment.
8. Organic producers aim for biodiversity. Loss of a large number of species is a concern for environmental scientists; as a result, many organic producers seek to preserve native species.
9. Organic agriculture helps to preserve rural communities. Organic agriculture is beneficial for rural communities, because it causes an increase in their income.
10. Variety of organic food. However, some organic foods, can be consumed alternatively. Non-food (industrial) agricultural products are also turning into organic, such as production of organic cotton and eventually clothing production.

**Conclusion**

Development and promotion of organic agriculture requires implementation of certain policies and practices. Governmental agriculture policy's orientation towards environmental and social goals will provide a great opportunity for organic agriculture. The certification standards need to be enforced to address the problems in this field. Training agricultural promoters is essential for dissemination of organic agriculture as well as for raising public awareness, research centers should find a new solutions to solve technical, economic and social problems.

# Chapter 3: Location and design framework, identification and analysis

## 3.1 Location and size

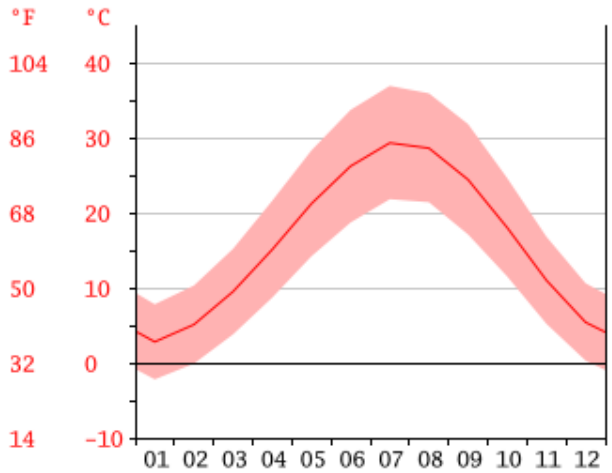
Tehran is bounded by Mazandaran from the north, Qom from the south, Markazi province from the south east, Qazvin from the west and Semnan from the east.

### 3.1.1 Climate studies

Iran's climate division

Architecturally, Iran's climate conditions are divided into 3 regions; cold, warm, dry, moderate, warm and humid. Primary studies on the climate grouping of cities in Iran in terms of thermal performance of buildings, divide these cities into 6 climate classes. The criteria for this division were the thermal performance of several building elements and how to control the interior spaces of the building. These divisions are:

1. Cold climate
2. Moderate and humid climate
3. Middle desert climate
4. Torrid
5. Very hot
6. .Very hot and humid




### 3.1.2 Tehran's climate

Tehran is generally warm and dry, except for the slightly humid and moderate climate of northern highlands. The maximum and minimum temperature recorded in Tehran are respectively 34.4, -7.4. There are 3 geographical factors which play important roles in the climate of the province; they include: Alborz Mountain in the north, the pluvial western winds and Kavir plain in the south of the province. Altitude has a major role in Tehran's climate, therefore temperature increases with altitude decrease from the north to the south, while rainfall declines. The average rainfall in the mountains of the northern parts of the province is more than 500 mm but this decreases in southern areas, and reaches 100mm at the margins of the salt lake. In this province, rain season is from October to March. Precipitation reaches a maximum in January but is low in early spring. It usually doesn't rain in August and September. The hottest months of the year are June, July, August and the coldest ones are December, January and February. In general, it can be concluded that with increasing the temperature, rainfall decreases and it even cuts off. The prevailing wind in the province is the western wind; which when intensified, remove polluted air from Tehran; however, along Alborz Mountains between Tehran and Karaj, the western winds are largely diverted to Shahriar. Another breeze blowing in the province is the mountain breeze to the plain and vice versa. These winds, as blow gently, don't have the ability to disperse pollutants. Pollutants flow from north to south after colliding with the mountains in the northern parts of the province. The cold season in Tehran usually starts in December and has the highest temperature in the middle of summer. The mountains around Tehran are very effective barriers to penetration of different air masses; as a result, Tehran's air is calmer than its surrounding areas. The average rainfall in Tehran is low and it is measured at 316mm per year. Tehran's water is provided through Karaj and Jajrud rivers. Karaj river is

located on the southern slopes of Alborz Mountains, which is fed by the cold seasons' rains and melted snow. Jajrud River also originated from Cloon Mountains. Tehran also has a large number of aqueducts and waterways; but despite the abundance of water resources, due to the population growth, and low rainfall in some periods, water scarcity is a problem.

### 3.1.3 Precipitation distribution in Tehran

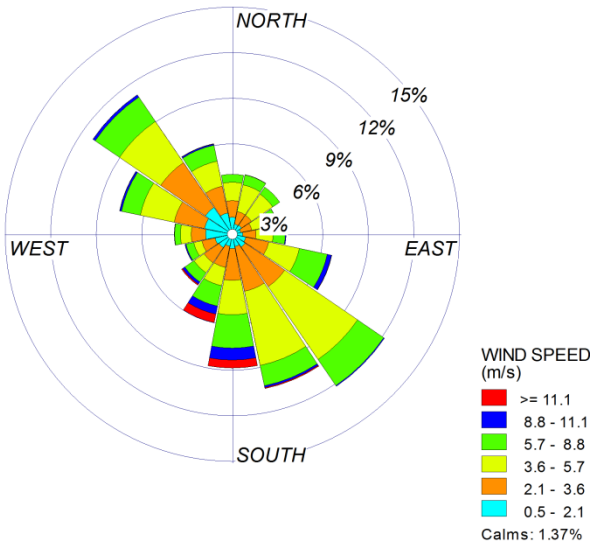
Precipitation in Tehran is mostly low and is measured at 245.8mm in a year. At night, a cool breeze, called Tochal breeze, descends from the mountain and during the day, a breeze comes from the plain.

### 3.1.4 Temperature

The average temperature in Tehran is 17ºc, with an average of 22.6ºc in the summer and 11.5ºc in winter. The maximum and minimum temperatures are 44ºc in the summer and -14.8ºc in winter.

### 3.1.5 Tehran winds

The winds in Tehran are related to the geographical location. General air currents in the province are subject to the western winds. The general extension of the currents is almost parallel to the overall direction of Alborz Mountains; therefore the impact of these mountains appears more as a result of lower average wind speed in the valleys.Sometimes the wind speed in Tehran can reach to 70 km/h; but the average wind speed is much

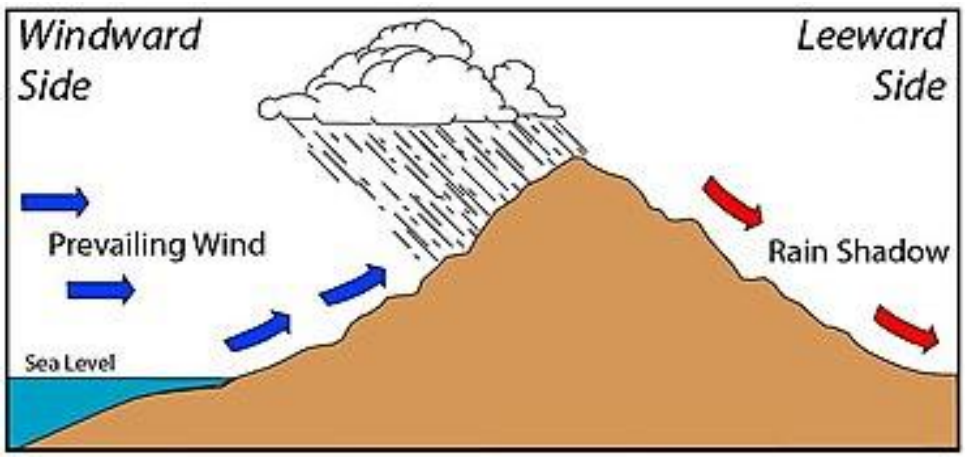



lower.

### 3.1.6 Tehran's climate profile

Tehran is located between mountainous and lowland areas. In the northern Tehran, the climate is temperate and mountainous, and in low-lying areas, semi-arid. Rainfall is usually high in winter. The cold season starts in December, but a little sooner in highlands. Cold seasons last for three of four months. In March, the temperature falls down gradually, and more rapidly in later April and is relatively warm in early June. The hottest months of the year, August and September, have been reported with the average temperature of 28-30ºc. The temperature in Tehran is moderate in winter and warm in summer.The northern parts of Tehran and Shemiranat are also moderate in summer. The greatest amount of rainfall occurs in winter. In summary, it can be concluded that in different parts of Tehran, due to its special geographical location, a different climate has formed. Three geographical factors affect the overall climate of Tehran; desert of deserts plains, arid areas like Qazvin Plain, Qom Desert and areas of Semnan, are negative factors affecting Tehran's climate and cause heat along with dust.

Alborz Range: These mountains moderate the climate.



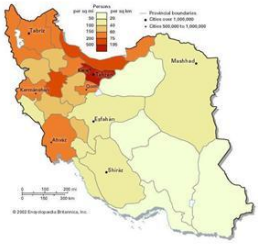
The western winds: These winds have and effective role in controlling scorching heat of the desert, but offset its effect.

Tehran province can be divided into the following three climatic parts:

1. The Northern Highlands: Have humid, semi-humid and cold climate with very cold and long winters. E.g. foothill climates. This climate is about 2-3 miles above sea level and has humid, cold and relatively cold winters. Abali, Firouzkouh, Damavand, Lavasan, Amirkabir and Taleghan are all in this climate.
2. Semi-arid and arid climates: with short winters and long summers. This climate is less than 1000m high. As the altitude decreases, the dryness of the environment increases. Varamin, Shahriar and south of Karaj are located in this area. Tehran's climate is influenced by mountains in the north and lowland areas in the south. Except for the northern part of Tehran whose climate is somewhat moderate and humid, the rest of the province is warm, dry and slightly cold in winter. The most important source of rainfall in the city is the Mediterranean and Atlantic humid winds blowing from the west. Alborz Mountains, effectively prevent the penetration of many air masses, thus make the city's air dryer on one hand and relatively calm on the other. Tehran's weather in winter is affected by the northern high pressure system (Siberia). This effect has caused the weather to be moderate in this season in the central and southern parts of the city and cold in the northern parts. Pollution also high in this season due to the weather inversion.

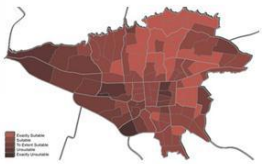

CONTEXT



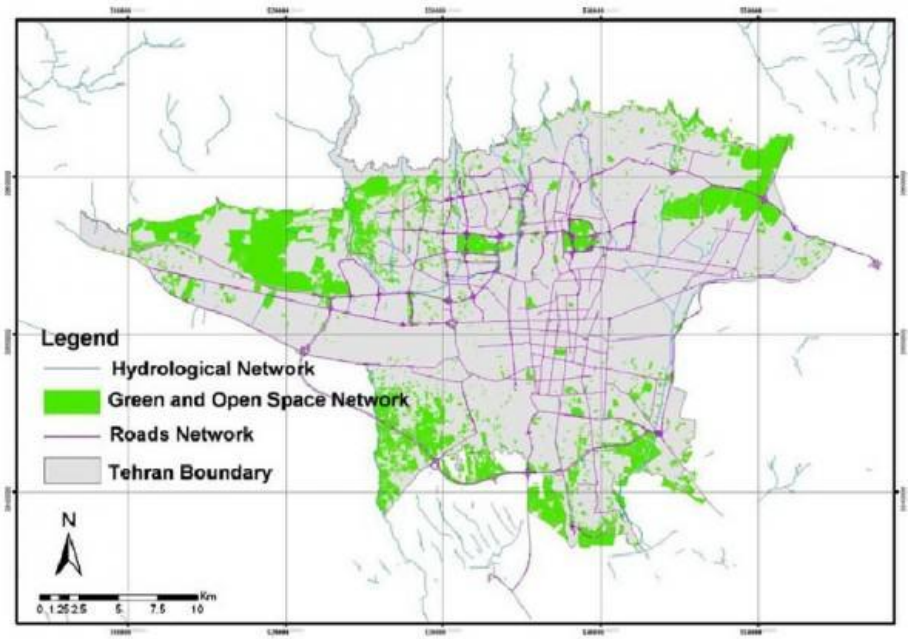


Population Density

- urban green space 79154757 m2
- public parks 17422904 m2
- urban green belt 37000 hectares



- per capita urban green space 6.5 m2




### 3.2 Climatic standards and criteria in Tehran

#### 3.2.1 Green spaces

#### 3.2.2 Plant coverage

As mentioned, it is necessary for the green spaces of Tehran to be adapted to the climate change we are facing. The most important management strategy in this regard is to utilize plants that are resistant to warmer climates and less susceptible to dehydration. In such conditions, the widespread use of plants, such as grass that is a plant with high water requirements and incompatible to dry conditions will not make any sense. Fortunately, there is a broad diversity of indigenous plant species in Iran, many of them are well adapted to warm and dry conditions and have the capacity to be replaced with species that are unable to adapt to current conditions.

A point that should be considered in this regard is the suitability of new species for urban green space. One important factor is aesthetics aspect. Stress-tolerant plants are often opaque because of their ability to adapt to the environmental conditions to increase sunlight reflection, and reduce transpiration and water loss. In addition, the growth rate of these plants is low, thus about replacing the current species, the capacities and capabilities of the new species must be taken into account.

### 3.2.3 Soil and plant growing media

In addition to the types of plants, the soil and growing media also play important roles in the optimal management of vegetation. A suitable growing medium, will minimize water loss in addition to provision of the plant's nutrient requirements and conditions for optimal plant growth and development. In general, water loss occurs in 2 major ways, the transpiration of the plant needed for photosynthesis and second, evaporation of water from soil's surface. As mentioned in the previous section, use of alternative plant species can reduce plan's transpiration and thus reduce water loss and adapt us to changes of climatic conditions. One of the proper solutions in this regard is to increase the amount of soil's organic substance which acts as a sponge and preserves soil's water in root area which is called leaching. Use of mulches on the soil surface is also another way that significantly reduces evaporation from the soil's surface, especially during the hot hours of day. For this purpose, a variety of compounds, can be used with low cost and high efficiency. These substances include plant residues, and sawdust.

### 3.2.4 Water resources and irrigation methods

Water management is the third key element of urban green space management. Changing the irrigation system to drip-irrigation method increases irrigation efficiency significantly. In this method, irrigation pipes are placed below the soil surface and thus, the evaporation rate from the soil surface is practically low. This method which is used in lost metropolises, is highly efficient. In addition the necessity of changing the irrigation system, alternative water resources can also be used to irrigate green areas. Use of municipal wastewater, has been one of the options in recent years. Use of these alternative resources when access to water resources is limited, plays an important role in supplying the water required for green areas. First, the health and sanitation of these effluents must be guaranteed, that's why there should be regular monitoring and control systems in order to control the level of pathogens, heavy metals, and other environmental pollutants in water resources. If these resources contain contaminants, in addition to threats to the citizens' health, soil resources will also be affected. Gradual accumulation of heavy metals in the soil causes a decline in its quality. One way to prevent the potential consequences of using these water resources is to use subsurface drip-irrigation to minimize the potential risk of pathogens presence on the soil surface.

### 3.3 Buildings

#### 3.3.1 Direction of building establishment

It plays a vital role in supplying thermal requirements. In this climate, it is recommended to place the buildings in a direction that absorbs the maximum solar energy during the cold months.

#### 3.3.2 Chart regional design methods

Generally, the main axis of the building should be perpendicular to the dominant wind direction, although the plan may rotate about 20-30 degrees.

Use of materials with high thermal capacity to store the sun's heat.

Evergreen trees in the west and northeast lands, can often be a barrier to winter winds. On the west side of the house, plants and hedges are used to block the afternoon sunshine.

#### 3.3.3 The best direction for building establishment

In hot and dry areas, natural daytime ventilation should be minimized because the warm air enters indoors, temperature also increases, especially during daytime that wind speed is high, and thus the natural ventilation is high. The outdoor temperature changes.

The need for draught makes windows necessary. However, it should be noted that ventilation efficiency is not commensurate with size of the windows. By adjusting the location, shape of the windows, they can be chosen in a way that the heat absorbed by is at a minimum level while also providing an efficient ventilation. However, the problem of getting dust into the building should be noted.

#### 3.3.4 Determination of glass surface and indoor light absorption

Natural light, sunlight and natural light in a residential units have a direct impact on the health status of its residents. To provide natural light in residential areas, size of windows should be proportional to the floor area.The exposure level of the window should be at least 15-20% of the floor area. It should be noted that although window installation and natural light supplies are desirable an necessary, surface of the windows should not exceed a certain level, as other problems related to warming the room during winter and keeping it cool during summer may come up.The amount of incoming light generally depends on the ratio of dimensions of the window or windows to the area of desired room and the depth of light transparency within the window and window's light.

Evidence show that the amount of light in a room is proportional to the ratio of area of the window glass to the floor area, and this is confirmed by calculations. The average daylight coefficient in the rooms is approximately one fifth the brightness of the glass to floor ratio.

About windows along an unobstructed longitudinal side of the room, the light reflection is 40%, while the glass area is one fifth of 20% of the floor area. The average coefficient of natural light will be 4 and at least half of this.

| Residential houses coefficient | natural light |
|---|---|
| -Living rooms (more than ½ m depth, for the | 1% |
| Least area of 8 mm²) | |
| -bed rooms (more than ¾ depth, least area of 6 mm²) | 5% |
| -kitchen (more than ½ depth, least area of 5 mm²) | 2% |

3.10.Race

The civilizations that have existed in Tehran for a long time, show signs of habitation and the emergence of this region, among which, “Cheshmeh Ali”, which dates back 6200 years before, is of particular importance. The group that settled in the area more than 6000 years ago is one of the region’s first indigenous tribes and races. The civilization born and raised by these tribes was very powerful and influential outside Cheshmeh Ali area, such as the inhabitants of Silk, Gharah Tappeh, Shahriar, … ; and gradually influenced other tribes. This group are the primary inhabitants of Tehran, who were later scattered in various forms, in the hills of Darus, Qeitarieh, and many other places. The events of the past period in this region, as well as the special situation of Tehran and emigration of various tribes to this area and its accompanying development, military and economic developments, created such a confluence that it is certainly not possible to define the primary tribes of every part exactly. Nowadays, different ethnic groups reside in every part of Tehran, none of whom were formerly inhabited in the area, but mainly from northern, southern, eastern and western or central parts of Iran, who live together with different cultures. Only in the mountainous villages of Alborz mountains, traces of ancient and indigenous people of the region can be found, for example in villages and places such as Ahar, Oshan, Fasham, Meigun,…

### 3.4 Religion

Due to its susceptible geographical location, the historic area of Ray, has been the root of various religions and beliefs, because of being located along the road of "Abrisham", which connected the easternmost to the western parts of the word. At that time, all religions would pass through this way, and as a result, no alienation was emerged.The old relics found from the past in Ray and Tehran, and also engravings by the past historians, show that Zoroastrianism beliefs were common among the region's inhabitants. Many Jews lived in the city for socio-economic reasons and also Ray's location on the road of Abrisham, had their own synagogues, neighborhoods and shops. There are also signs of the Christian and possibly Nestorian settlement in the area.With the advent of Islam, and conquest of Ray in the year 22AH, the inhabitants began to convert to Islam gradually.

### 3.5 Citiy's structure

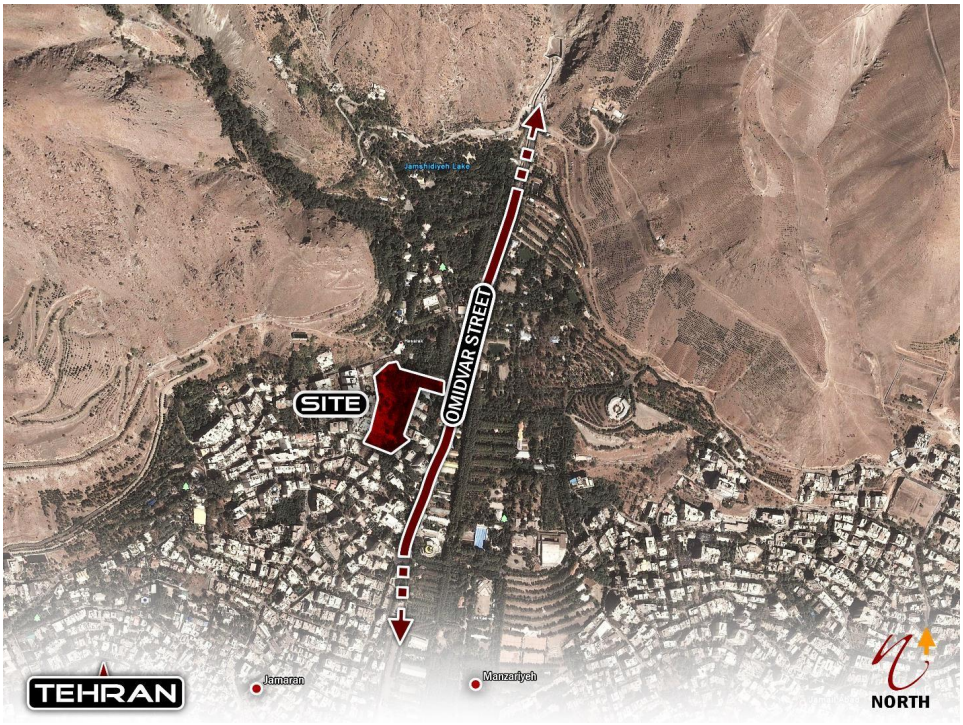
Tehran, like many other cities in the country, had an attached, closed structure. The communication network in attached structures due to the gradual formation, alignment to the climatic and geographical factors, security and defense issues, and other factors were often in an organic, non-geometrical form, and in some cases spiral.Most types of buildings had a central courtyard where light and vision of its components were provided from within the courtyard, and usually the buildings in such structures had no windows and passageways. One of the first and foremost changes in the structure of the city was straightening the streets and passageways.

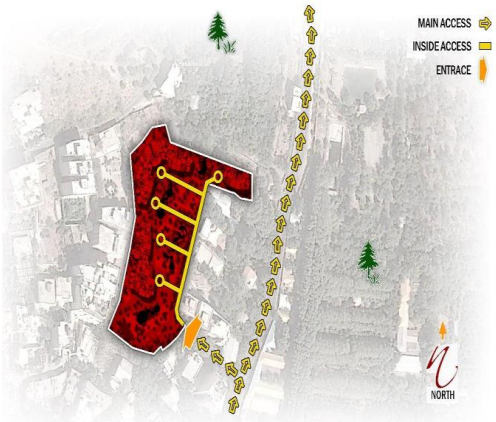
In addition to straightening the streets, car usage also divided the streets into 2 parts of pedestrian and car routs. This pattern was also based on the physical and functional properties of the structures, with the car route in the middle and two sidewalks on either side of the streets. As a result of this change, the streets became wider, and the exterior of buildings became bolder. Street-side buildings can be classified into 3 groups in terms of spatial elements; first, residential or office buildings on the edge of streets, second, residential buildings or office buildings that were a short distance from sidewalk. The front area of some of these buildings was merged with the passageways; in some others by constructing a wall of mental fence, green space, the general pattern for most of the buildings in the area distinguished front area from passageways. The third type, which has gradually become street-side, is composed of a number of shops or services such as a bank on the ground floor next to the sidewalk and a residential or official place on the first floor. But the interior structure of the city, namely the alleyway, and side streets, was different, as the interior spaces were often residential; thus, a clear distinction between landscaping of the side streets and the spaces within the structure, appeared.

### 3.6 Analysis of the site

The site is generally located in the north of Tehran. It is located on Omidvar St, next to Jamshidieh in one of the Tehran's luxurious areas.

- Landscape: The north view of the site is Jamshidieh Park, the south view is the city, and the east & west views are the adjacent buildings.
- The following photo shows neighboring sites, as well as the land's slope with the north of the site at zero and south at -34.
- The following photo shows the prevailing sun and wind directions, with sunrise coming from north-east, south-west and the prevailing wind from north-west to sout-east.





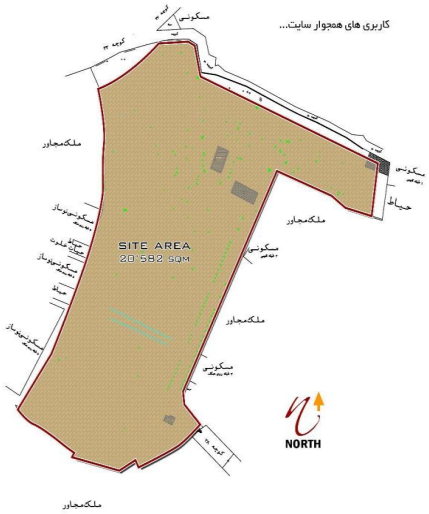

**Access road to the building**


**Overview of the site**

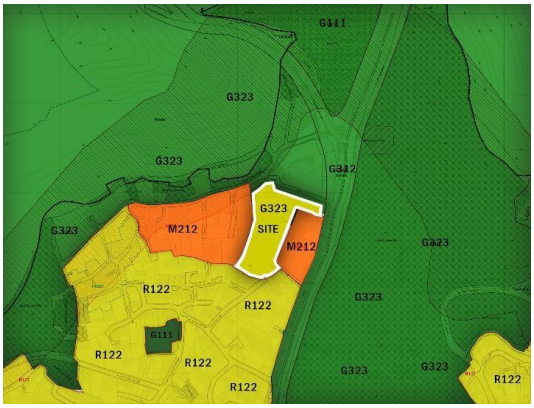

**Direction of sunlight**


**Wind direction**

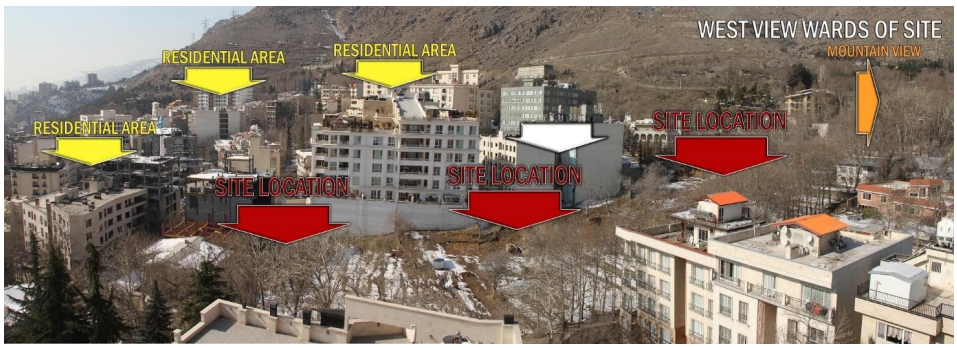
**Use of buildings around the project**



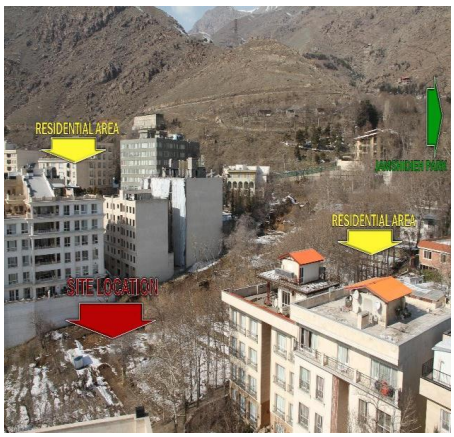





**Property registration number plate**




**Place to be indicated with red arrows**
**this place is near to the park and the mountains**




# Chapter 4: Individual samples' evaluation

## 4.1 Bamika shop (organic food)

**History**

Sabzkoushan Industrial Pageh Company started operating in Iran with the new idea of offering healthy packaged salads and vegetables for the first time in Iran. The company's products are manufactured and marketed as Bamika brand. So far, the company has been providing a wide range of services in restaurants and offices, and we are proud to be a pioneer in this field in 91. The company's products made us to offer service in Bamika shops, so that we provide our services to the ultimate consumer and move towards a position of offering fresh products that each Iranian deserves. We have now launched the first ring of our stores, where a wide range of health products are available for costumers.

The company's experts have done extensive research over the past years on the mechanized manufacturing process and maintaining the quality and hygiene of salads in a level so that the final product is competitive to the similar foreign samples. Since our inception, our goal has been to pursue a world-class premium product policy and strive to maintain the quality, and this is a factor which lead to our credibility.

- **Bamika food industry's missions:**

❖ Our mission is to provide health, convenience and fast service along with variety, freshness and deliciousness in production and supply of salads, vegetables and fruits for a healthier and longer life for our customers

❖ We strive to improve the material lives of our employees, create a sense of pride and pleasure, and a proper environment for creativity and innovation.

❖ We are committed to provide share holder financing.

### 4.1.1 Production Process

**Choosing the ingredients**

The ingredients of Bamika salads are vegetables such as lettuce, tomatoes, cucumbers, cabbage and more. Fresh vegetables arrive to the factory with the best quality, and we strive to maintain their quality to deliver ready-to-eat salads.

**Primary Preparation**

After selection and arrival to the factory, various vegetables get prepared to enter the production line.

**Chopping**

Lettuce and other vegetables are copped into even sizes by and automatic cutter with a steel blade to prevent damage to the tissue, and vitamin, mineral loss. Then they enter the first nutrients washing step.

**Primary washing**

Bamika salads washing line is completely automatic. In the wash tubs, air bubble system injects bubbles into the water, causing the vegetables' parasites to die out.

**Secondary washing and disinfection**

In the following steps of washing process, in addition to air bubbles forming system and high water pressure, ozone is injected into the water for disinfection. Bamika salads are disinfected with ozone because of various problems caused by chlorine use; such as production of chlorinated carcinogenic compounds and residues. Ozone gas is much stronger that chlorine in terms of power and speed of killing microorganisms.

**Packaging**

Bamika salads' packing machines are fully automatic and salads are packed with a modified atmosphere. The salads should be stored at the refrigerator temperature and the proper timing of storing them is very important; so precision in labeling them, date of use and refrigerator conditions of store are crucial for their storage.

**The shop's goals**

Fruit and vegetables supply has always been one of the concerns of the authorities in our country. Opening reputed stores that can have the same management across the country can be the beginning of elimination of brokers alone the way. These stores will have more sale rates as the number of branches increases; which can be followed by direct purchase and lower costs. Along the way, stores can also offer some other products, such as fruit juice, salads and ready-to-eat vegetables, in addition to fruits and vegetables. This branch can increase sale rates and reduce costs, thereby increasing the store's power. In these chain stores, packed fresh fruits and vegetables in bulk, various types of fruit and vegetable juices are available in different bottles for

sale. Salads are made from ready-to-eat vegetables such as chopped carrots, celery, cabbage, peas, beans and green beans.

### 4.2 Organic clothes shop and exhibition

The designer's goal was not to divide the space completely, but to define the interrelationship between different spaces freely with only different heights. The interior design of this office is combined with its products' showroom and includes 3 behaviors; watching the clothes, meeting people and meeting with the store's staff. The factor of connecting the spaces is a large, suspended iron plate. Under the spaces between these iron plates, some live plants have been put to grow in the environment; these plates are almost coverless and have been raised above the floor to create specific space for meetings. They also form a large table inside the office, and in most places play a role as a neutral platform, they allow the vital energy of the beautiful Japanese plants to flow and they have generally created a dynamic and enjoyable place to shop and evaluate the products and exchange information throughout this store.

## 4.3 Section1: Pools, Criteria and Standards

### 4.3.1 Pool's edge

The marginal area of outdoor pools is more than indoor ones. In outdoor pools, the ratio of marginal area to the sum pool area is variable from 3:1 to 4:1, depending on the density of swimming population. In outdoor pools the minimum width of the margin is 4m, which in indoor pools this amounts reduces to 50%; means that 2 m of the margins of outdoor pools must absorb the sunshine and overlook the water.

The diving boards shall be mounted on the edge of the pool in the back facing the sun, and at the back of the pool there must be at least 2,4 m spaces respectively for outdoor and indoor pools.

The place where the slides are installed, the margin width of the slide should be at least 2m. in national or international competition pools, the margin is greater than the above values according to the equipment and dimensions of the pool; for example, the minimum recommended margin width for international competitions is 4-6m.

### 4.3.2 Water Drainage Canal

The marginal water drainage duct of the pool should be made in a way that each duct covers an area of 237, and they shouldn't be more than 8m apart. The water drainage duct shouldn't be connected to the drinking water duct circulation.

There should be a water hose in the pool area so that the area can be washed using it, when necessary. The pool's edge requires a gentle slope of about 2% to the outside and its final cover should be non-slippery an suitable for barefoot walking in accordance with the requirements of National Standards of Iran, no111202, 2009.The margins of the pools should be washable with authorized disinfectants daily.New coatings, such as polypropylene, vinyl or rubber coatings, are the best coverings for the pool's edge, especially indoor pools. In addition to provision of required acoustic features, color variation and repair are top rated.

### 4.3.3 Start platforms

Start platforms should be firm and not be spring-loaded; the platform height from the water level should be 50-75cm.

The area of the platform should be at least 50*50 $cm^2$ and covered with a non-slippery substance.

The platform should be so constructed that the swimmer can grip the front, or the side when starting forward.

### 4.3.4 Pool ladders and stairs

Stainless steel sheaths should be provided in advance.

Place the target so that it is at the same level as the surrounding area.

### 4.3.5 Water exit stairs

In pools where the swimmers' exit is through stairs that are in the pool, the stairs should be designed in a way that are clearly visible. Each step must be at least 125mm and the minimum width 350mm.

### 4.3.5 Handles

### 4.3.6 Stairs

### 4.3.7 .Return discs

### 4.3.8 The required sub-spaces

### 4.3.9 The showers' condition

With lukewarm water with the least temperature of 32ºc and most 43ºc. Also, the minimum water discharge from the shower heads should be 5/7 minlit.To prevent any harm to the consumers, thermostatic taps should be used which clearly indicate the cold and warm water conditions.The shower water should be provided from sources with a minimum permissible concentration of chlorine. At least 50% of showers should be cabin like, with the minimum area of 1 m².

### 4.3.10 Changing room's design

The changing room must be in the form of cabins with the least area of 1m². The number of the cabins should be according to table1. The floor should be smooth, without slope. It should also be made of materials that don't penetrate water and moisture.

Use of carpets in the showers or bathrooms is strictly forbidden.

Partitions (separators) placed between the dressing chamber should be at least 25cm higher than the surface or on a concrete or brick platform with a suitable coating such as tiles or ceramic with a minimum height of 10cm.

Clothes hangers should also be hanged on a fully reinforced, non-removable cement or brick surface with a minimum height 10cm and firmly attached to it.

All clothing shelves should have pores that allow air to circulate inside.

### 4.4 Section 2: physiotherapy, criteria and standards

Today in Iran, we have to promote quality and standards internationally. The need for medical services in various aspects of prevention, treatment and rehabilitation has become widespread. Optimal provision of these services is widely specialized in the field of medical sciences. Many specialists in different disciplines are in charge of offering a variety of specific diagnostic and intervention methods. This specialization has make better quality services for people in the community. But it is obvious that meeting various needs of the community for medical service requires comprehensive development in public health and health care services. Organizations involved in health care service provision need comprehensive information about their facilities and staff, also current, expected and desirable status from quantitative aspects, to develop realistic and actionable plans to meet the currents needs and predict the future needs. Physiotherapy service is no exception from this, and it is necessary to consider optimization of the plans of the future. The first step is to determine acceptable standards that can be used to measure the current status.

The primary purpose of this plan is to determine the quantitative and qualitative indications of standardization of physiotherapy service based on defined levels of hospital service provision so that they can be identified in the next steps after determination the minimum requirements.

#### 4.4.1 Qualitative standards of space

Following these rules is mandatory for all physiotherapy centers at each level.

- It should either be located on the ground floor or, if located on other floors, access to the physiotherapy section should preferably be provided by an elevator or ramp (easy to access for all patients), by crutches, walkers, wheelchairs and beds, preferably in the form of "2". In the physiotherapy section, there should be adequate space for the staff to rest in the physiotherapy department.
- There should be adequate space in the physiotherapy unit as "patients' waiting room" (preferably 2 separated parts for outpatients and inpatients) with enough chairs and amenities.
- There must be enough communication spaces, corridors, entrance door for the rooms and convenient cabins for patients' passage. For this purpose, the corridors must be at least 3 meter wide, and entrance doors at least 120cm.
- The corridors' floor in public health centers should be covered with a nonskid coating which can be washed and cleaned easily.
- The cabins should be easily separated and have enough space (at least 1.5*2.2.m)
- In each cabin there should be only one bed and necessary medical equipment.
- Inside the cabin should not be seen from the outside.
- Thick curtains are used to separate the cabins. The wall separating the cabins must be at least 2 meters high.

- In primary design of physiotherapy development, sufficient room for development should be anticipated based on increased demand of health care service.

### 4.4.2 Section 3:Body Building, criteria and standards

One of the most important factors in building a healthy gym is that the best conditions must be provided for the athletes. Therefore, for the best aerobic activities, size of the space depends on the number of athletes per square meter. Usually each person requires 2-2.5mm² at gym.

Gym floor plays an important role in proper performance and balanced movements of the athletes; it should be soft, durable and strong. In terms of coloring and lighting of the gym, using bright and light colors will be impressive. The walls at gym must be mirrored.

The subspaces at the gym include changing rooms, showers, toilets, and if possible, saunas and aqua equipment; also warm up rooms, recreation spaces, medical examination rooms, official medical and the gym equipment rooms. There are usually cafeterias in relaxation spaces. An aerobic salon can be built next to these gyms.

### 4.4.3 Safety at the gym

1. The standards presented, especially the gym's height must be considered.
2. Most gym's machines must be in a space that are at least 1m away from each other. The distance can also be determined by movement of the machines or through a subjective test.
3. Aerobic machines such as treadmills, stationary bikes, space skis and etc, must be put in a distance of 0.5m and resistance machines should be placed in distance of 1-1.5m from each other.
4. Using non-standard equipment, which can cause joint damage over time, should be avoided.
5. Prevent shortage of adequate light at the gym.
6. Ventilation system must be regularly checked to prevent undesirable airflow at the gym. Indoor air must be oxygen-rich, as inadequate air ventilation at gym reduces athletes' performance.
7. Improper floor coverings must not be used, and the floor should be cleaned carefully.
8. Refrigerants such as air conditioners, fans, and etc should be installed at gym so that the airflow doesn't directly blow on the athletes' sweaty bodies.
9. The light should be proportional to the space and condition of the gym and the lamps shouldn't produce too much light.
10. The light and color of the gym should prevent eyestrain.
11. The gym's floor should be smooth, strong and should not cause slip or ankle strain.
12. The gym should be kept clean and safe.
13. Equipment should be well stored to provide a comfortable ambience for the users.
14. Since different odors, including sweat, can rapidly be spread in the space, the walls, equipment and changing rooms must be cleaned daily using household cleaners.
15. The gym's floor should be cleaned using vacuum cleaner; the cleaner substances (solutions and disinfectants) must be accessible to the users, to use them when necessary.

16. Institutions for using the machines should be written down on the nearest board to the machines.
17. The most important principle in creating and maintaining safety at the gym is presence of coaches and their assistants.
18. There should be safety mattresses between aerobic machines, to prevent any danger to the athletes as they may slip or fall.
19. The distance between the machines, especially the stations at which dumbbells and halters are used, must be about 1-1.5m away from the mirrored walls.
20. This is how the machines are placed technically: first of all, there should be aerobic equipment (treadmills, …) and the upper body, after that lower body and finally central body machines. Splitting prevents fatigue and exhaustion during workout.
21. Prevent any physical injury in the athletes, by principal use of the gym's equipment under the supervision of experienced trainers.
22. Prevent distribution of illegal drugs.

### 4.5 Section 4: Massage Therapy

Massage room should be properly sized and putting excessive stud in the room must be avoided. The rooms should be quiet and free from any annoying noise. During the massage time, frequent and occasional coming and going must be avoided.

If the customer contests, a gentle and calming music can be played (preferably the customer's taste) with the right tune. Try to keep the room's atmosphere always full of nice odors and perfumes. It is recommended to use colors such as bright blue (whitish or greyish) or bright green, which are relaxing. Colors like mustard, brown and hazelnut can also be used for the room or equipment.

Applying small colorful lamps in the room is a good idea. Set the room temperature so that the masseuse doesn't feel too cold or too hot; a proper ventilation would be a great solution. Candles are usually used in the massage room to create a relaxing ambience. Use of ornamental cascades and ponds, plant, also having nice curtains and beautiful pictures, can also be helpful to satisfy the customers.

The massage room represents the masseuse's taste and experience; so try to take the time to design it.

- **Technical Standards**

In order to comply with scientific and technical standards, in addition to set points in environmental health guidelines in sport facilities regard, the following conditions must be met.

1. Minimum space for each massage bed should be 7 m² (2*2.5 m), with a ceiling of at least 270 cm. Standard message bed sizes: 61-76cm wide, 183cm long and 55-85cm high. The

mattress thickness should be between 4-7.5cm and massage bed may be fixed or portable. Independent centers should have at least four beds and pools, but the gyms at least one.

2. Applying rollers, blankets, towels, and bed sheets is only allowed when the health standards are followed and the mentioned are washable.
3. Applying different oils, gels, powders and crèmes will only be permitted under direct supervision of a technician (physician or physiotherapist).
4. Air-conditioning, toilets, bathrooms and the center's space should be in accordance with health guidelines.
5. Applying electric massage machines, massage balls, special stones and sticks in only allowed under supervision of technicians of the center.

### 4.6 Section 5: Restaurants

Restaurants affect the customers in different ways. The customers' first impression of restaurant is the open and visible section which is the façade and portal, and then the décor, tables' design, lighting, color, floor, and etc. which represent whether the restaurant is luxurious and upscale or cheap; and based on that impression, he decides to go or not to go to that restaurant. To choose a desirable restaurant to go, the customer follows the exploring approach; if the appearance looks interesting, he takes a look inside and also at other features. Design, as a powerful factor makes the customer come back to the restaurant. If the building is not properly designed, people will always be skeptical about whether the food is healthy or of good quality or not. They will get an attitude toward them as roadside restaurants which are unhealthy and dirty. Improper and greasy utensils will be taboos.

A proper exterior design would often avoids such prejudices. Today, many restaurants have upgraded their signboards and entrance to catch the customers' attention. The exterior of the restaurant looks like an ultra-modern, very luxurious building, which reflects the luxurious and magnificent atmosphere inside the restaurant. Restaurants that are well designed, and have a friendly and positive atmosphere, will convey a warm, happy environment to the customer. If the location, which plays a decisive role in the architecture is properly designed and unique, the customer will be attracted to the restaurant. So, one of the key elements for the restaurant's success, is its "unique" design. In case of chain restaurants, it is the architecture, design and specific logo that makes a quick communication with the costumer and these are causes that customer identifies the restaurant. However, it should be noted that too much focus on the landscape (appearance), limits the ability to change it in the future. The landscape should also be designed in such a way that is not easy to imitate by others. People and drivers passing by, don't only notice the building itself, but also the natural scenery around it. In fact the façade, helps a nice first impression of the restaurant.

Like the lobby and entrance, the landscape also reflects the inside of the restaurants; likewise, observe a landscape in which plants are without any particular arrangement and there are various types of flowers and trees, reflects the informal atmosphere of the restaurant.

In some cases, the harmony between landscape and architecture creates a dramatic influence. A restaurant located in a place where there is the most spectacular scenery around it and in which other design elements are selected in accordance with the natural environment is more successful. Landscape is very important in restaurants where there are parking lots, since with some occasional artistic arrangements of trees and plants, ugly buildings and surrounding areas can be hidden. As mentioned before, the exterior image of the restaurant, makes the first impression. The next impression is the customer's entrance through the entry; the small corridor between the door and the reception, allows the customer to have a brief stop in front of the crowded environment. The separation methods of indoor and outdoor spaces, should be tailored to the restaurant's type and location.

Because of the weather conditions, these must be a filter at entry. In most cases, this entrance is a necessity and its shape affects the customer's impression of the restaurant. In restaurants that have glass doors, customers can see the inside and even the delicious food on the tables. Which is a kind of invitation, but wooden doors, evoke a sense on curiosity in the customers, which sometimes evoking this sense is deliberate and can make the customer to step inside. The entry, in addition to indicating the type of restaurant, should be easily accessible.The smell of food shouldn't be spread in the space. In general, hoteliers and restaurant owners who have invested high amounts of money in social service, will definitely consider the mentioned, to get a satisfying result.

### 4.6.1 Types of restaurants

1. Ordinary restaurants: They are divided into 3 categories:

1.1. Traditional restaurants: 1.3-1.9m² per each guest, with single and multiple tables, with waiters and enough space for the customers.

1.2. Self-catering restaurants: 1.6m² per person.

1.3. VIP restaurants: 2m² per person and special requirements.

2. Grill room

Is a special salon, in which the food is prepared while the customer is watching. There are all the kitchen amenities there and customer can eat there if they want to.

3. Food court

It refers to a big hall, which is divided into several booths and each booth has its own special menu, food and desserts. All types of food sold in this complex is cheap and prepared fast, and there is a common hall for eating food. Each booth has its own cashier's counter. They are usually located in big commercial centers like malls.

4. cafeteria

Ice cream, soft drinks, tea, coffee, cake and fast foods such as burgers and sandwiches are served.

Sometimes, passengers arrive at the hotel, when the restaurant is closed, but cafeteria is open all day long; so, travelers can use the cafeteria at any time they come to the hotel. Food price in this places is also lower compared to the restaurants.

5. Buffet

Restaurants that have set the tables with varieties of food and desserts, and the customer can help themselves with the food as much as they want without any limitation. Admission price is announced on the sign board. Only the drink is served by the waiters and customers pay for it separately.

These restaurants should be careful to replace the food immediately.

### 4.6.2 Interior spaces at restaurants

- **Main hall, kitchen, toilets.**

The main hall is divided into the following sections:

1. Reception: It should be viewable for the guests to avoid confusion after entering the restaurant.
2. Bar: Some restaurants have a bar to serve drinks to the customers. Its design should be in a way so that the head waiter can easily take the orders.
3. Cafeteria service: 0.83-1.5m² per person. They are usually suitable for families. Food is delivered by waiters.
4. Coffee bar: 1.2.-1.4m² per person, the service is usually self-catering.
5. Self-catering: 1.4.-1.7m² per person, with a high counter.
6. Counter: It should be visible to the customers. In self-catering restaurants, a well-designed counter is an important step of the plan.
7. Banquet hall: 1.2-8m² per person. Is a traditionally designed hall, which the tables are placed on platforms.

Hangers or coats closet

This place should be located at the entrance of the restaurant so that customers can hang their coats, hats and etc. there. It is better to have a small room, with one person in charge of taking the customers' umbrellas and coats. The employer in charge of this must carefully watch guest' properties and prevent stealing.

Waiters' Station (WS)

Must be at a place that doesn't disturb the guests.Seats

Restaurants should be designed in a way that create a variety in seats arrangement. (for example: 4,6,8, sitter spaces)

### 4.6.3 Kitchen

The kitchen must provide a flawless service. Food preparation area and warehouse should be easy to access. The interior space of the kitchen can be divided into the following areas.

1. Cooking zone which has a free plan so that the waiters and chefs can easily move around and run their errands.
2. Equipment zone; a place to put equipment such as grill pans, barbecues and … .
3. Preparation zone; which also has a free plan for providing food to the customers which can be located as a small room beside the cooking one.
4. Washing zone; which should have adequate space for doing the wash up and putting the dishes away.
5. Personnel zone; such as the staff dining room. The staff dining room is usually self-catering with small chairs. In bigger restaurants there is a private room for the head chef with his private bathroom.
6. Food storage zone: divided into dry and frozen storage.

### 4.6.4 Toilets

In restaurants, the required space per person is to Ladies' room must be separated from men's. The toilets should be located in such a way that is not visible to the public. There must be a proper ventilation.

### 4.6.5 Official zone

In big restaurants there is a room for the manager and a space in which he can rest.

### 4.6.6 Higiene in restaurants

All kitchen surfaces should be washable. Usually for slopes less than 1.20, a wide kitchen would be proper.

There should be drainage channels in the kitchen and storage room. Non-slip surface and tiling are required in the kitchen.

### 4.6.7 Facilities

Water and gas affairs must be handled by experienced electricians. Electrical equipment should be equipped with surge protectors. Food hygiene requires adequate ventilation to remove odors and so on. Mechanical ventilation happens at 7.7.-10.2 m/s speed.

Dampers or automatic fire valves and oil filters are off great importance.

Windowed should have mesh and should not have opening handles in case of mechanical ventilation.

To reduce noise in the restaurant there should be soundproof layers between walls of the kitchen and other rooms. Sound absorbing surfaces are helpful for this regard.

### 4.6.8 Restaurant supplies

The restaurant supplies include table, chair, auxiliary tables, cashier tables, server cart, child seat, flower pots, several trailers for desserts and dishes, ventilator.

### 4.6.9 Restaurant tables

The restaurant tables should be edge-less. They are rectangular or round shaped. Tables used for parties and celebrations are easily joined or separated, for convenience in transportation. The tables chosen for restaurants are two, four, six or eight sitter.

- Auxiliary table: when serving food, is placed next to the customer's table. Depending on the number of guests, they put the plates and dishes on it, and it can be dragged by the waiter. The size of auxiliary table is usually 85-40.

- Child seat: It is higher than normal seats. Is must have a handle to that kids can use it easily.

- Restaurant seat: After the customer enters the dining room, the first thing which has a direct contact with him is the chair. The chair determines the length of time the customer spends at the restaurant. In luxury restaurants, even furnished chairs are used as far as possible; the chairs' back should be smooth in order to comfortable sit.

## 4.7 Section 6: shop

### 4.7.1 A brief of stores' interior design techniques

Stores' interior design, should induce a different and nice feeling in the customer. It is one of the subjects that has not been considered seriously in our country. Due to socio-economic issues many foreign companies and products have not been as active as other countries in Iran.

Nowadays, stores' interior designers play and important role in customer attraction, and have a great mission in designing the stores.

Stores should make a great first impression to the customers, and this can be possible by a design created by designers. The store front should be attractive. Creating the focal vision point must be in a way that inside the store is visible from outside, to attract customers.

Store is a functional space and should be able to perform several functions such as product display, selling counters, changing room and about big stores even living room, coffee shop, children's playground and so on.

The store's rent is very expensive, so a calculated usage is important. The disabled standards are an important issue nowadays; for example, in Dubai, the interior designer has to provide a 150*100 changing room for the disabled in a 30 meter store, which is easily accessible to the disabled (75cm height for the disabled).Light and dimensions are important factors in changing rooms, since the customer makes his decision in this room.Proper lightening, a good mirror, proper hangers and comfortable seats are all important in the customer's decision.

Another way that the designer can apply to attract customers is use of images. Product related pictures of themes of daily life, nature, children, etc. can be suitable for a store. Lightening is one of the most important factors in customer attraction. Proper arrangement of objects and lightening, while does not use direct light, will catch the customers' attention.

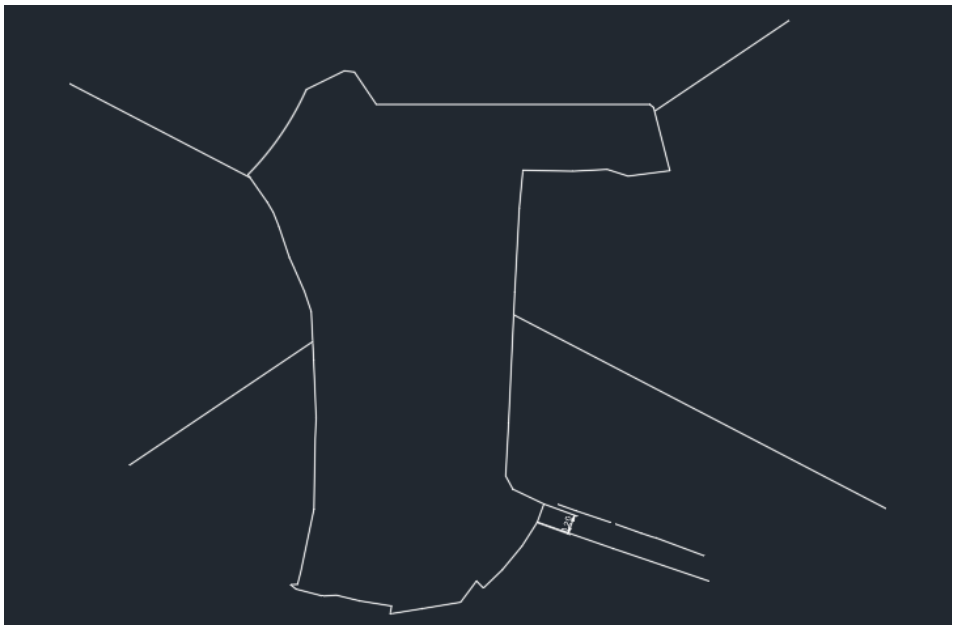
The floor's design, plays an important role in interior design. Flooring must be commensurate with the overall image of the store and materials selected should be commensurate with the store's function.

Like the floor, the ceiling is also a part of interior design that can have an innovative design in creating surfaces, material, color, etc. today, open and false ceilings are new ideas used in some stores. A combination of painting and color is an important factor that can create a new look. Creation of the interior design's elements can help the designers to achieve height standards.

These elements can be symbolic, historic, trend, classic and so on. For example, a sports goods store where there are symbolic exercise elements like pool sections for swimming suits and stuff, a rock wall in rock climbing equipment. This is where the designers must be able to come up with a design that makes the product look good.

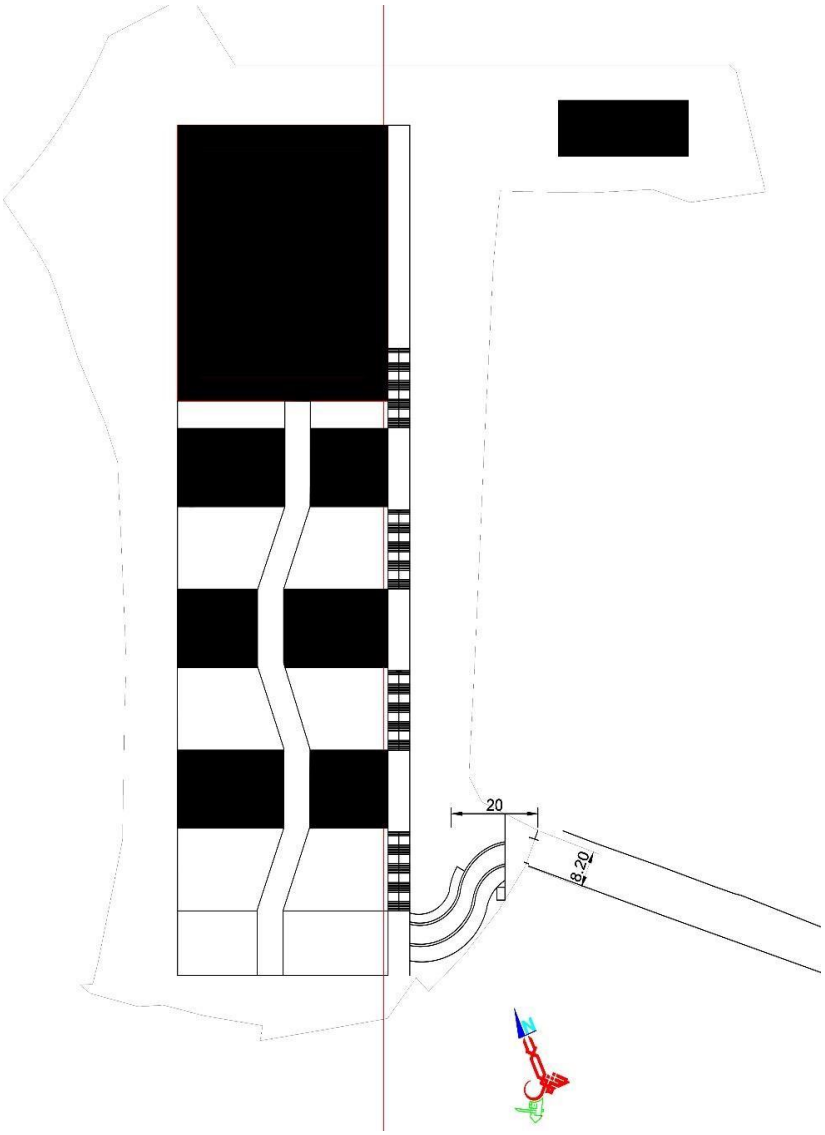
Nowadays, this has become a very important technique and product management is tremendously influential in customer attraction.

# Chapter 5: Architecture Design



**SITE PLAN**


**SITE PLAN**

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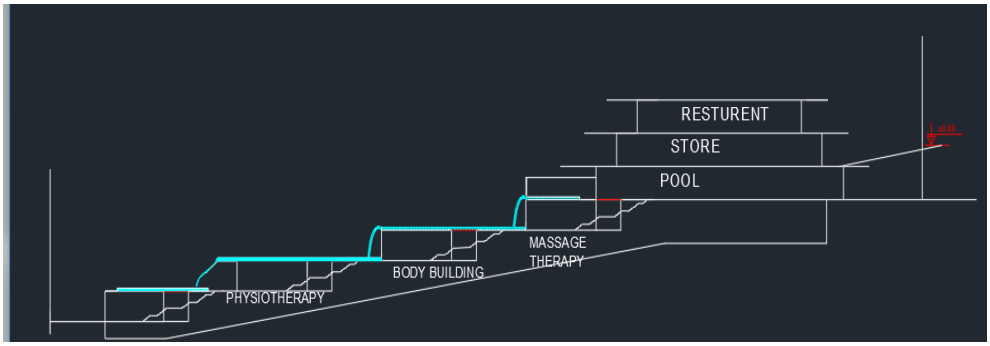


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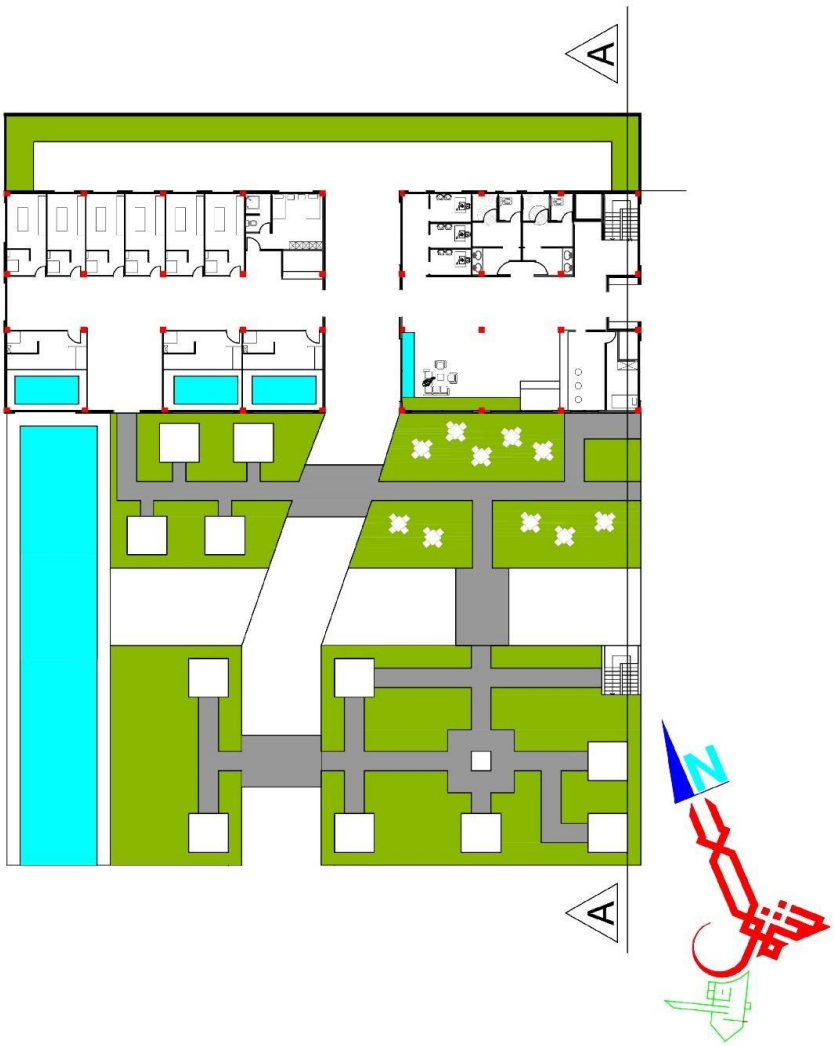
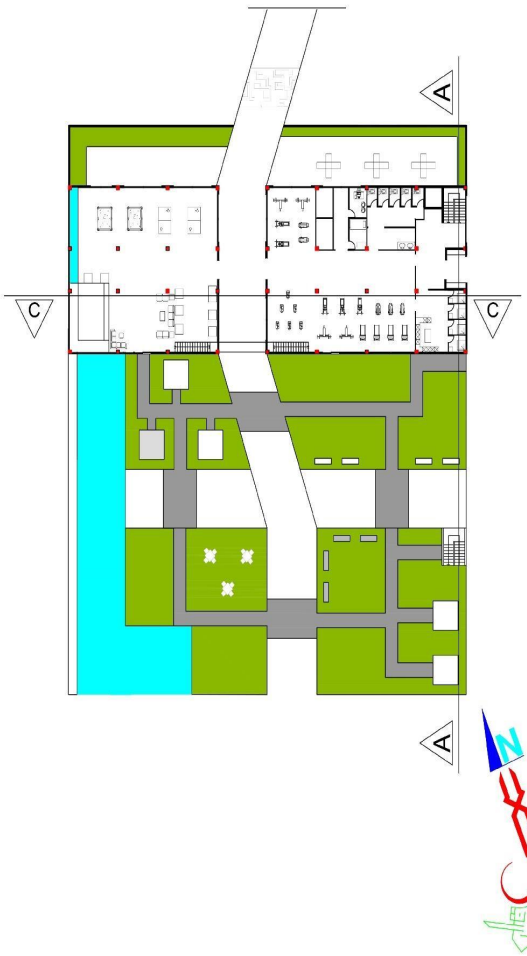
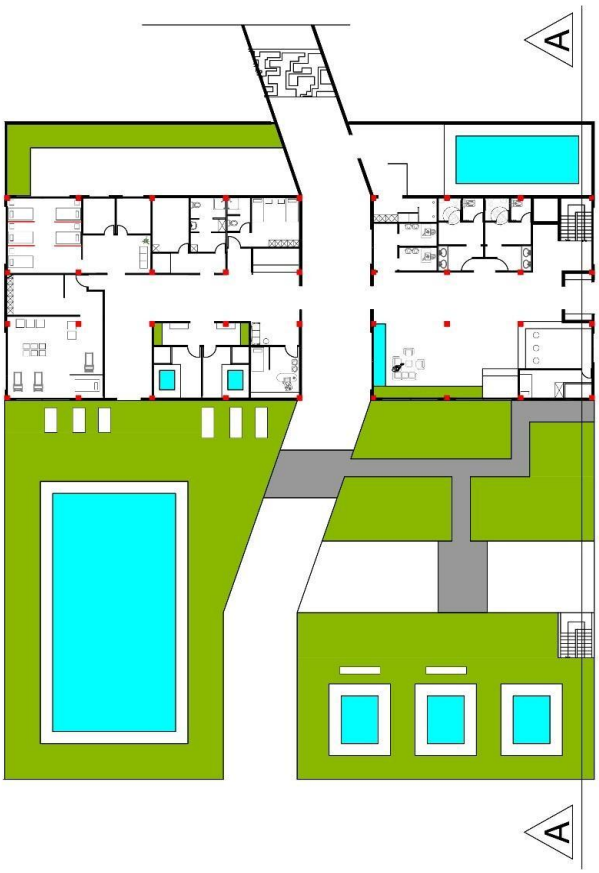


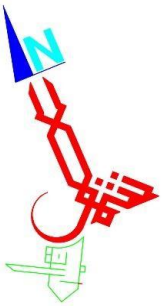

**MASSAGE THERAPY**




**BUDY BUILDING**

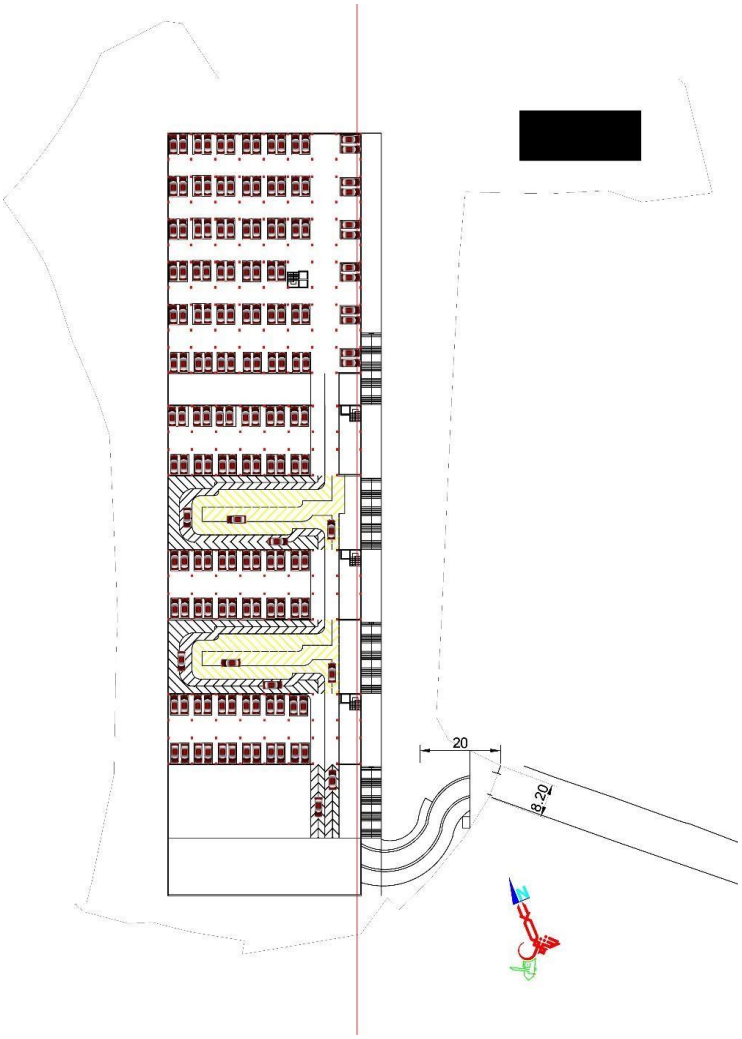

**SECTION FROM BODY BUILDING PLACE**



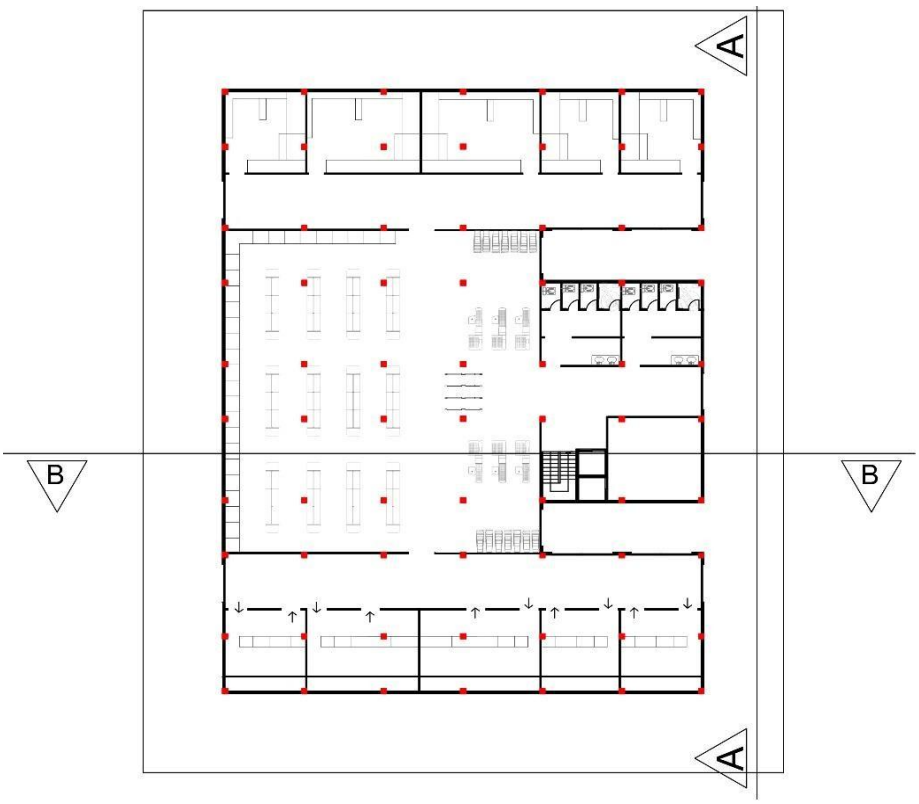




**PLAN PHYSIOTHERAPY**

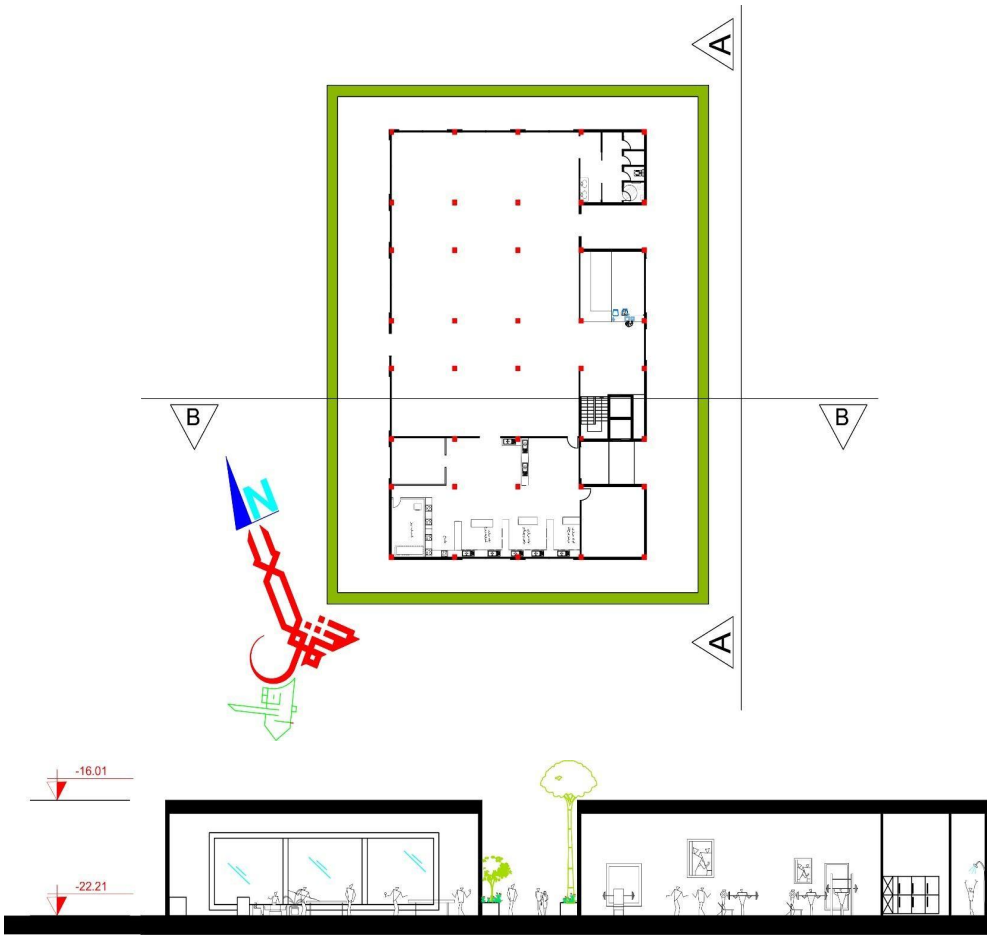

**POOL PLAN**



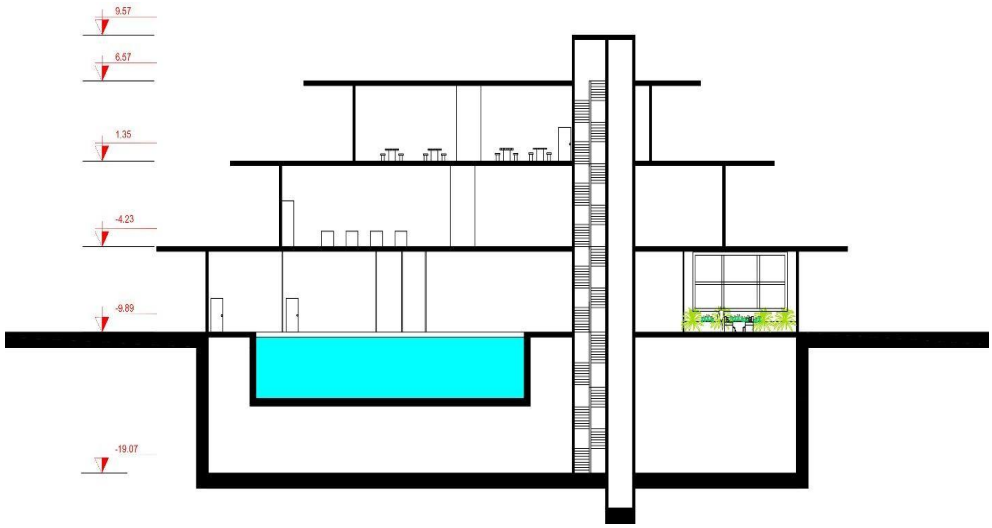

**PARKING PLAN**



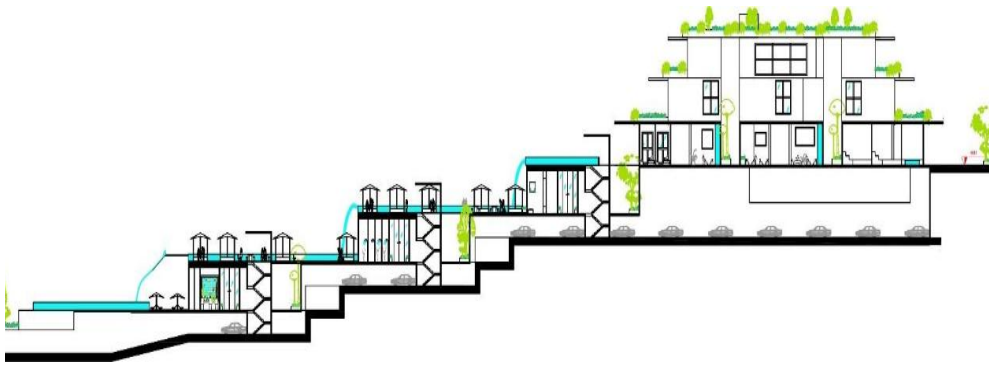

**STORE PLAN**




**RESTURANT PLAN**




**SECTION B-B**



**SECTION FROM SITE**

**3D DESIGN FROM SITE PLAN**

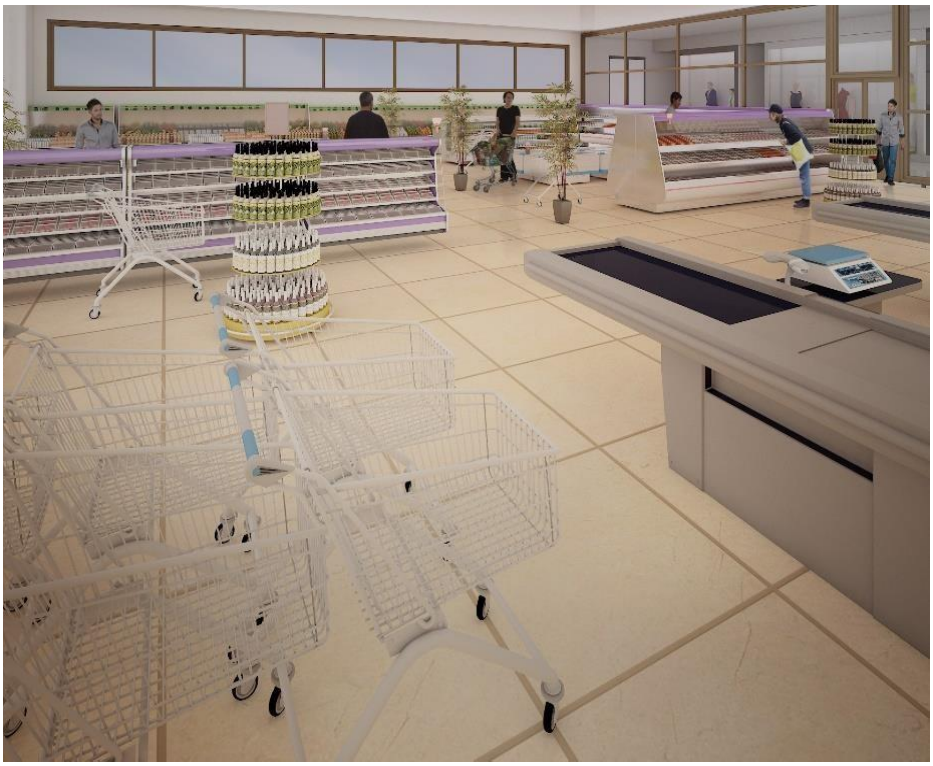
**3D DESIGN FROM SITE PLAN**

**3D DESIGN FROM SITE PLAN**

**3D DESIGN FROM RESTURANT**

**3D DESIGN FROM GYM**

**3D DESIGN FROM RESTURANT**



**3D DESIGN FROM STORE**

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**Tables**

| Tehran's climate | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| January | Feb | Mars | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | year | |
| 17 | 21 | 25 | 30 | 36 | 40 | 42 | 40 | 37 | 31 | 25 | 21 | 42 | The hottest cº |
| 5 | 8 | 13 | 21 | 26 | 33 | 36 | 35 | 31 | 23 | 15 | 8 | 21 | The hottest average |
| -1 | 1 | 5 | 12 | 16 | 22 | 25 | 24 | 21 | 14 | 7 | 2 | 12 | The coldest average |
| -12 | -8 | -7 | 1 | 3 | 10 | 15 | 12 | 11 | 3 | -3 | -7 | -12 | The coldest |
| 242 | 30 | 25 | 10 | 3 | 2 | 2 | 3 | 15 | 33 | 38 | 38 | 43 | Rainfall |

| 4h sans | 3h sans | 2h sans | Showers with cold and warm water |
|---|---|---|---|
| 1 for every 10 | 1 for every 7 | 1 for every 5 | |

| As the capability allows | Clothes shelves |
|---|---|
| at least 2 for each 40 individuals | Toilets with cold and warm water |
| at least 2 for each 75 individuals | Sink with cold and warm water |
| at least 3for each 75 individuals | Changing room |

| considerations | Levels5,6 | Levels 3,4 | Level 2 | | **Type of equipment** |
|---|---|---|---|---|---|
| | | | b | a | |
| | 215 | 100 | 70 | 43 | Service and support space |
| | 15 | 10 | 8 | 8 | Reception |
| | 15 | 10 | 5 | - | Examination room |
| | 25 | 15 | 12 | - | Official service |
| | 30 | 20 | 10 | 9 | Toilets |
| | 20 | 15 | 10 | 10 | Library and Staff room |
| | 40 | 20 | - | - | Conference room |
| | 35 | 15 | 12 | 8 | Waiting room |
| | 35 | 15 | 13 | 8 | Storage room |
| | 250 | 120 | 80 | 47 | Treatment space |
| | 85 | 45 | 30 | 15 | Electrotherapy salon |
| | 100 | 45 | 30 | 20 | Hydrotherapy salon |
| | 65 | 30 | 20 | 12 | Useful space sum |
| | 645 | 220 | 150 | 90 | Approximate communication space |
| | 100 | 60 | 30 | 30 | Passageways |
| | 100 | 60 | 40 | 30 | Approximate sum of useful space |
| | 100 | 60 | 40 | 30 | Approximate sum of useless space |
| | 100 | 60 | 40 | 30 | Columns and walls |
| | 665 | 340 | 230 | 150 | Approximate sum of infrastructure |
| **8** | 6 | 4 | 3 | | Cabin numbers |

| considerations | Levels5,6 | Levels 3,4 | Level 2 | | Type of equipment |
|---|---|---|---|---|---|
| | | | b | a | |
| | 6 | 4 | 3 | 2 | Machine |
| | 5 | 3 | 2 | 1 | Faradic machine |
| | 5 | 3 | 2 | 1 | Galvanic machine |
| | 4 | 3 | 2 | 2 | Light |
| | 4 | 2 | 1 | 1 | |
| | 4 | 2 | 1 | 1 | Interfacial |
| | 3 | 2 | 1 | 1 | Hot pack machine |
| | 2 | 2 | 1 | 1 | Paraben machine |
| | 2 | 1 | 1 | - | Light |
| | 2 | 1 | - | - | machine |
| | 3 | 2 | 1 | 1 | Machine |
| | 4 | 2 | 1 | 1 | Short wave diatrics |
| | 2 | 1 | - | - | Medium wave diatrics |
| | 3 | 2 | - | - | Vasotrain device |
| | 2 | 1 | - | - | Diadynamic device |
| | 2 | 1 | - | - | Miofeedback device |
| | 2 | 1 | - | - | High voltage device |
| | 8 | 6 | 5 | 3 | Suitable wooden bed |
| | 8 | 6 | 5 | 3 | Wooden chair |
| | 8 | 5 | 3 | 3 | footstool |
| | 8 | 6 | 5 | 3 | tabor |
| | 8 | 6 | 5 | 3 | Carrying trolley |

| considerations | **Levels5,6** | **Levels 3,4** | **Level 2** | | Type of equipment |
|---|---|---|---|---|---|
| | | | b | a | |
| | 215 | 100 | 70 | 43 | Service and support space |
| | 15 | 10 | 8 | 8 | Reception |
| | 15 | 10 | 5 | - | Examination room |
| | 25 | 15 | 12 | - | Official service |
| | 30 | 20 | 10 | 9 | Toilets |
| | 20 | 15 | 10 | 10 | Library and Staff room |
| | 40 | 20 | - | - | Conference room |
| | 35 | 15 | 12 | 8 | Waiting room |
| | 35 | 15 | 13 | 8 | Storage room |
| | 250 | 120 | 80 | 47 | Treatment space |
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| | 100 | 60 | 40 | 30 | Approximate sum of useless space |
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| | 665 | 340 | 230 | 150 | Approximate sum of infrastructure |
| **8** | 6 | 4 | 3 | | Cabin numbers |